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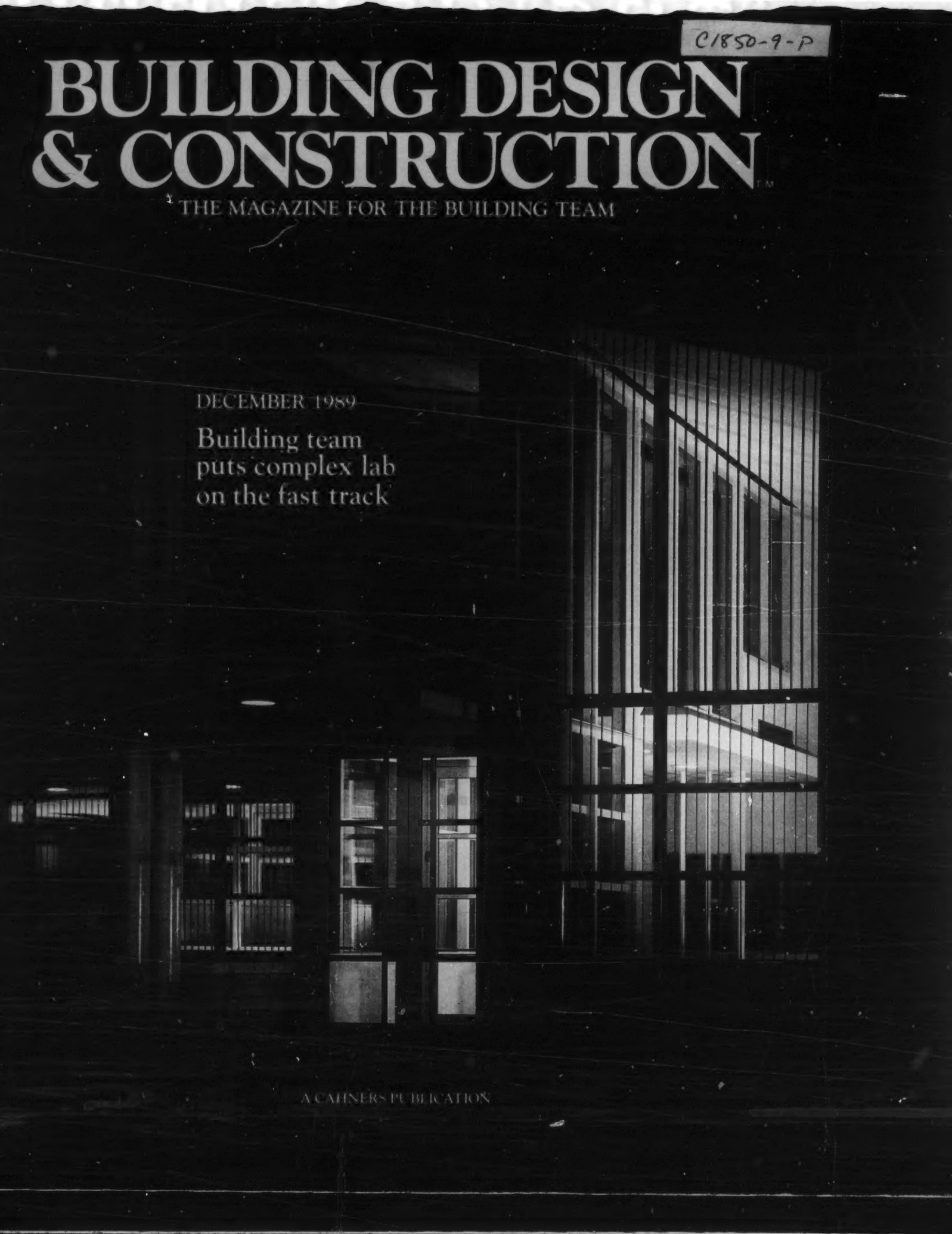
BUILDING DESIGN & CONSTRUCTION™

THE MAGAZINE FOR THE BUILDING TEAM



DECEMBER 1989

Building team puts complex lab on the fast track

A CAHNERS PUBLICATION

BUILDING DESIGN & CONSTRUCTION

VOL. 30, NO. 14 THE MAGAZINE FOR THE BUILDING TEAM DECEMBER 1989

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BUILDING DESIGN & CONSTRUCTION

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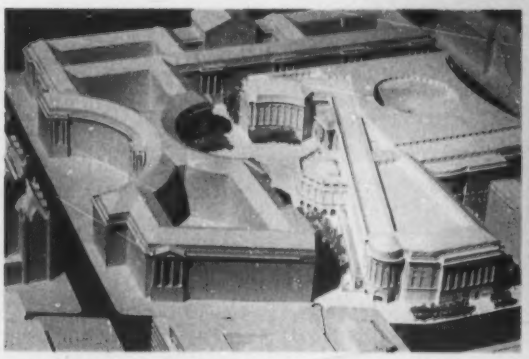

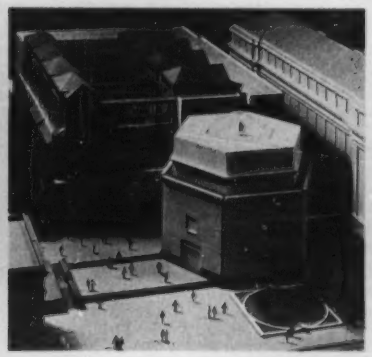

NEWS & TRENDS: Left to right, new federal office building in Washington, D.C.; California earthquake damage assessed; ground is broken for Holocaust Memorial Museum.

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BD&C's 11th Annual Owner/Developer 300

Construction flattens out for industry giants

By Christopher Olson, Managing Editor

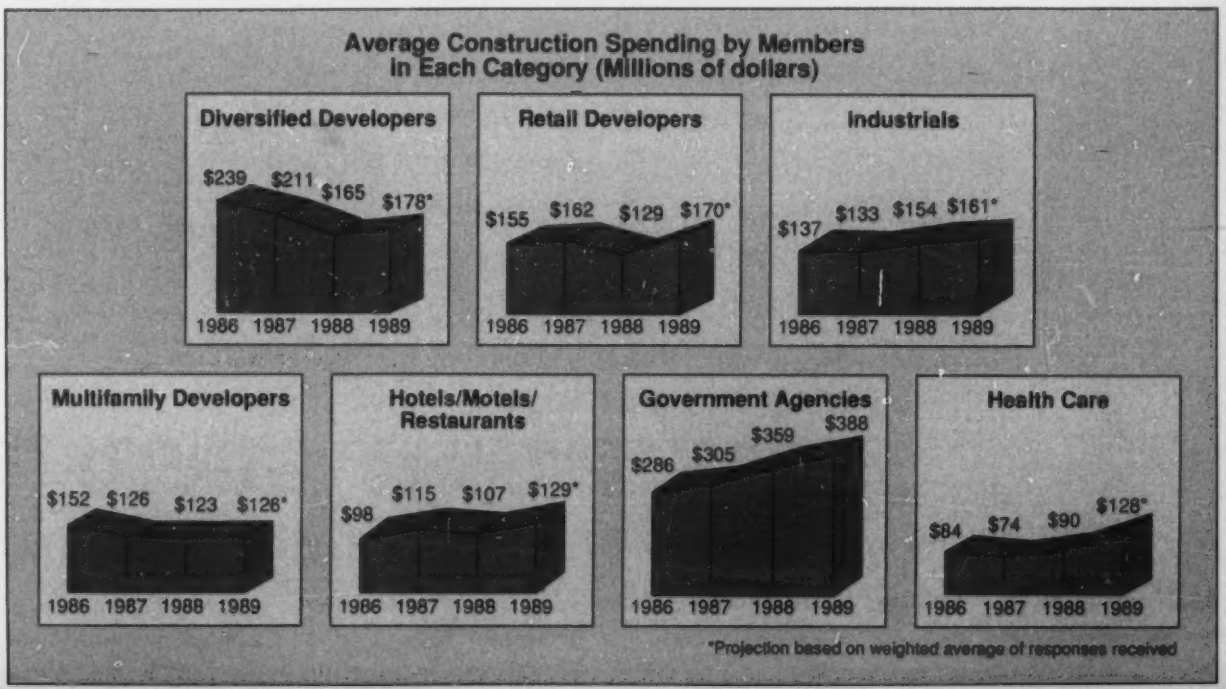
After recording successive declines since 1985, the 300 firms ranked this year in *BD&C*'s annual Owner/Developer 300 survey have reported only a 2 percent decline in the current-dollar value of construction put in place during 1988, the smallest decrease over that four-year period.

The performance of the entire group, however, does not reflect the varied activity reported by firms listed in the survey's seven different categories, which include the Diversified Developers (80 members), Retail Developers (30), Industrials (50), Multifamily Developers (30), Hotels/Motels/Restaurants (40), Government Agencies (50), and Health Care Developers (20).

The value of construction put in place by the Diversified Developers, the group most affected by overbuilding in the office market, fell 22 percent during 1988, from $16.9 billion to $13.1 billion. This follows a decline of 11.5 percent for this group during 1987. Nevertheless, the Diversified Developers are projecting a collective increase of 8 percent in construction during 1989.

The response of some firms to declining development potential has been to expand into new building markets or regions. Hartz Mountain Industries, for example, has established a new residential development department, while Crown American plans expansion into the South, and Tishman Realty & Construction plans expansion into New England.

Despite the well-publicized volatility of the retail industry, the construction volume reported by the Retail Developers in this year's survey is some 30 percent higher than the figure reported last year for this category. This increase — which had been anticipated by the retailers a year ago —can be attributed in part to their conviction that attractive, up-to-date stores will be a key weapon in the increasingly competitive battles ahead. For example, top-ranked May Department Stores remodeled some 2.1 million square feet of space in 24 stores during 1988. The firm's plan for 1989 through 1993 calls for investing about $975 million in new stores and an additional $550 million in remodeling of existing properties. Sixth-ranked Wal-Mart Stores expanded its selling area by 18 percent in 1988.



The top 50 Industrials collectively spent $7.7 billion on facilities construction during 1988, a 17 percent increase over 1987. However, spending varied widely from industry to industry within this category. For example, the firms in the survey who represent the computer and electronic and the food and beverage industries reported increases in spending of about 47 percent, while firms representing the aerospace, chemical and automotive industries reported increases of only 7 percent, 6 percent and 3 percent respectively.

Several factors are contributing to rising expenditures on industrial facilities. A number of firms reported implementation of programs designed to strengthen their presence in increasingly global markets. Others noted drives to consolidate distribution and manufacturing centers. IBM, for example, reported that advances in manufacturing technology have enabled the firm to reduce the number of its U.S. plants from 19 to 14.

Burdened by overbuilding and by tax changes resulting in fleeing investors, the market for multifamily housing continues to rest on shifting foundations. The 30 Multifamily Developers collectively reported a decline of roughly 3 percent in the value of construction put in place during 1988. Further evidence of difficulty in this market is revealed by the fact that five firms on the list a year ago have either pulled out of multifamily development or gone out of business. Several firms still in the market are building more luxury and amenity-packed units for both rental and sale as an alternative to standard "box" units. Picerne Properties reported that wildly escalating housing costs have priced many first-time buyers out of the market and hence reduced the demand for entry-level or start-up housing. The company has responded by putting a greater emphasis on upscale condos and townhomes.

After two consecutive years of rising construction expenditures, the 40 Hotel/Motel/Restaurant firms registered a decline from $4.6 billion to $4.2 billion for 1988. Although hotels are overbuilt in many markets, a bright spot is Nevada. New hotels and expansions are booming in Las Vegas, and Golden Nugget and Hilton are both building casino hotels in Laughlin. For the chain restaurateurs, conversions and remodeling remain a significant portion of their construction work. Red Lobster, for example, acquired and then converted 26 existing restaurants into Red Lobster units. Remodeling work is often generated by the addition of take-out or drive-thru services.

Higher construction spending by some federal agencies — including the Department of Energy, the Naval Facilities Engineering Command and the Postal Service — supplied a large portion of the $2.7 billion increase reported by the 50 Government Agencies for 1988. However, a number of state agencies also registered substantial increases which, more often than not, included new prison programs or prison expansions.

A year ago the 20 firms in the Health Care group projected a 23 percent increase in construction during the then-current fiscal year. This proved to be a very accurate estimate, since this year the group is reporting $1.8 billion in construction for 1988. Various satellite and outpatient facilities continue to account for a large portion of these firms' construction. Hospital Corp. of America, for example, finished six new psychiatric/substance-abuse centers last year. Hospital renovations and health facilities for the growing senior population also contributed to this group's construction activity. △

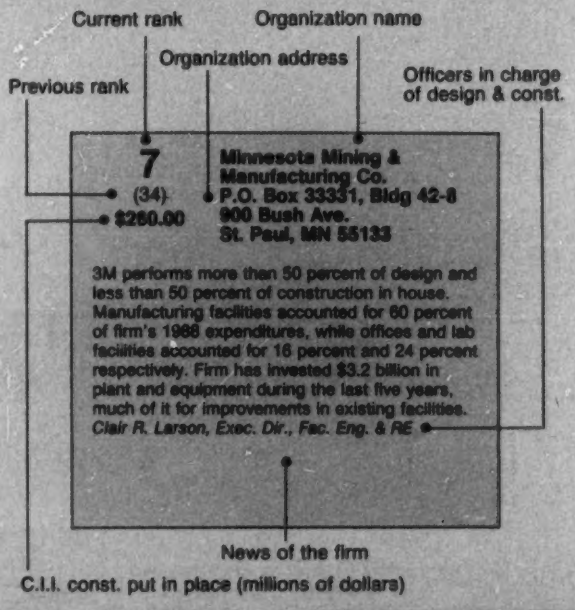
How the Owner/Developer 300 Survey Is Conducted

BD&C's Owner/Developer 300 survey encompasses the firms and agencies that placed the largest volumes of commercial, institutional and industrial (C.I.I.) buildings within the United States during 1988 or the most recent completed fiscal year. These 300 firms are divided into seven categories: 80 Diversified Developers, 30 Retail Developers, 50 Industrials, 30 Multifamily Developers, 40 Hotels/Motels/Restaurants, 50 Government Agencies and 20 Health Care Developers.

The firms and agencies are ranked within the appropriate category on the dollar value of the construction and reconstruction put in place for the given year. Only the base building or "hard" construction costs are included in the dollar value. For projects extending beyond one year, only the value of the construction put in place for the given year is reported. Every effort is made to exclude non-C.I.I. work, such as single-family detached housing, utility and process plants, roads and bridges, and nonbuilding equipment installed by owners or tenants.

To compile information on potential members of the Owner/Developer 300, *BD&C* mails a questionnaire each year to approximately 1,500 organizations. In cases where *BD&C* was unable to obtain a response to the questionnaire, the value of a firm's construction may be estimated on the basis of public information, such as expenditures printed in annual reports and/or regional building cost data applied to projects known to be under way. If a ranked firm's construction volume was estimated by *BD&C*, this fact is noted at the beginning of the entry provided for each firm.

The sample report below highlights the information presented in the survey.


Current rank
Organization name
Organization address
Previous rank
Officers in charge of design & const.
7
(34)
$260.00
Minnesota Mining & Manufacturing Co.
P.O. Box 33331, Bldg 42-8
900 Bush Ave.
St. Paul, MN 55133
3M performs more than 50 percent of design and less than 50 percent of construction in house. Manufacturing facilities accounted for 60 percent of firm's 1988 expenditures, while offices and lab facilities accounted for 16 percent and 24 percent respectively. Firm has invested $3.2 billion in plant and equipment during the last five years, much of it for improvements in existing facilities.
Clair R. Larson, Exec. Dir., Fac. Eng. & RE
News of the firm
C.I.I. const. put in place (millions of dollars)

DIVERSIFIED DEVELOPERS

CONSTRUCTION VOLUME DROPS TO $13.1 BILLION
Many firms report plans to expand into new geographic markets

1 (1) **$2,194.00**
Maguire Thomas Partners
1299 Ocean Ave.
Suite 1000
Santa Monica, CA 90401

Building methods used by this privately owned company include fast-track scheduling and competitive bidding for construction. No design and less than 50 percent of construction is performed in house. All facilities constructed were for lease to others. Offices account for 50 percent of construction, followed by mixed-use projects (40 percent). *Robert F. Maguire III, Mng. Ptnr.; James A. Thomas, Mng. Ptnr.*

Trammell Crow Co. is currently developing Market Square, a 630,000-sq.-ft. office project in Washington, D.C.

2 (2) **$1,600.00**
Trammell Crow Co.
3500 Trammell Crow Center
2001 Ross Avenue
Dallas, TX 75201-2907

Above figure includes $1 million of reconstruction. Warehouse and distribution centers account for more than 50 percent of construction, followed by retail projects (25 percent). Less than 50 percent of design and construction is done in house. Building methods include fast-track scheduling, competitive bidding and negotiated contracts for construction. *Joel C. Peterson, Mng. Ptnr.*

3 (3) **$894.59**
Lincoln Property Co.
3300 Lincoln Plaza
500 N. Akard
Dallas, TX 75201

Lincoln Contractors Inc. is firm's construction subsidiary. Less than 50 percent of design and construction is done in house. Offices account for 33 percent of activity, followed by warehouse/distribution centers (20 percent). All buildings were built for lease to others. *A. Mack Pogue, Chmn., Sr. Ptnr.; C. Preston Butcher, Regional Ptnr.; William C. Duvall, Regional Ptnr.*

4 (6) **$811.23**
The Webb Companies
3000 Financial Center
Lexington, KY 40507

Specializing in offices, warehouses, distribution centers and mixed-use projects, this privately owned firm does less than 50 percent of design and construction in house. Ninety-two percent of what was constructed was leased to others, 5 percent was sold and 3 percent was owned and occupied by the company. *R. Dudley Webb, Ntnl. Ptnr.; William B. Owen, Exec. VP*

5 (9) **$450.00**
The Koll Co.
4343 Von Karman Ave.
Newport Beach, CA 92660

Best-known for commercial and industrial projects, this firm is involved in the construction of warehouse/distribution centers, laboratory/research facilities and retail projects. Building methods include competitive bidding for construction and negotiated contracts for design. Koll Construction is construction subsidiary. *Donald M. Koll, CEO; Ed Griffen, Pres., Financial Svcs.*

6 (12) **$350.00**
Taubman Co. Inc.
200 East Long Lake Road
P.O. Box 200
Bloomfield Hills, MI 48303

Above figure includes $5 million of reconstruction. This privately owned firm does more than 50 percent of design, but less than 50 percent of construction in house. Recent projects include Columbus City Center in Columbus, Ohio, and Bellvue Center in Nashville, Tenn. *A. Alfred Taubman, Chmn.; Robert C. Larson, Pres.; Robert S. Taubman, Exec. VP*

7 (16) **$337.60**
John W. Galbreath & Co.
180 East Broad St.
Columbus, OH 43215

Above figure includes $32 million of reconstruction. No design or construction is performed in house. Ninety-five percent of what was built was leased to others. Offices account for 95 percent of activity. Recent projects include Bank One Center in Cleveland and Swiss Bank Tower in New York City. *Daniel M. Galbreath, Pres.; Donald W. Burbrink, Sr. VP, Dir., Devel.*

8 (18) **$298.44**
Zeckendorf Co. Inc.
55 East 59th St.
New York, NY 10022

Building methods used include construction management from an outside firm and negotiated contracts for design and construction. Sixty-three percent of what was built was leased to others, and 37 percent was sold. No construction is performed in house. *William Zeckendorf Jr., Pres.; William Lie Zeckendorf, VP; Arthur Wm. Zeckendorf, VP*

9 (28) **$287.47**
Paragon Group Inc.
7557 Rambler Road
Dallas, TX 75231

A privately owned firm. No design, but more than 50 percent of construction, is performed in house. Best known for office buildings and multifamily housing. Building methods used include negotiated contracts for construction. Recent projects are Paragon Center in Redwood City, Calif., and Barnett Center in Jacksonville, Fla. *Jerry J. Bonner, Treas.*

10 (17) **$270.27**
The Weitz Corp.
800 Second Ave.
Des Moines, IA 50309

Construction volume was estimated by *BD&C*. Typically, this privately owned firm does less than 50 percent of design activity in house. However, all construction is usually done in house. Best known for commercial and institutional projects. *Fred W. Weitz, Pres.*

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DIVERSIFIED DEVELOPERS

11 (15) **$245.84**
The Beacon Companies
50 Rowes Wharf
Boston, MA 02110

Construction subsidiary is Beacon Construction Co., Boston. Most activity by this privately owned firm is in the Northeast, but the firm is expanding nationally. Building methods used include negotiated contracts for design. More than 50 percent of construction is done in house. Recent projects include Rowes Wharf and 75 State Street, both in Boston. *Norman B. Leventhal, Chmn; Edwin N. Sidman, Mng. Ptnr.*

16 (—) **$183.00**
Opus Corp.
9900 Bren Road
P.O. Box 150
Minneapolis, MN 55440

Best-known as a specialist in office buildings, distribution and light manufacturing facilities and hotels. Offices account for 86 percent of activity, followed by hotels (10 percent). All construction and more than 50 percent of design is performed in house. Recent projects include Kraft Warehouse Complex in Phoenix, Ariz., and ConAgra offices in Omaha, Neb. *Gene Haugland, Pres., Opus Corp.; Keith Bednarowski, Pres., Opus US Corp.*

20 (14) **$156.00**
Crown American Corp.
Pasquerilla Plaza
Johnstown, PA 15907

Shopping malls account for 70 percent of activity. Eighty-two percent of what is built is leased to others, and 18 percent is owned and occupied by the firm. No construction is performed in house by this privately owned company. Best-known east of Mississippi River, and plans expansion into southern states. Recent projects include Compri Hotel in Raleigh-Durham, N.C., and corporate headquarters in Johnstown, Pa. *Nicholas J. Pasquerilla, Sr. VP, Fac. Plng.*

12 (4) **$225.00**
The Prudential Property Co.
Prudential Plaza
Newark, NJ 07101

Parent firm is Prudential Insurance Co. of America. No design or construction is performed in house. Building methods used include fast-track scheduling, construction management from an outside firm and negotiated contracts for design and construction. *Brian J. Strum, Chmn.; Ronald L. Rayevich, Pres.; Robert O. Fulford, Exec. VP*

17 (26) **$180.00**
McKellar Development of La Jolla
1250 Prospect St.
Suite 103
La Jolla, CA 92037

Construction volume estimated by *BD&C*. Typically, this privately owned firm performs all construction, but less than 50 percent of design, in house. Activity emphasis is in offices and multifamily residential projects. Most of what is built is either sold or leased to others. *Christopher S. McKellar, Pres., CEO*

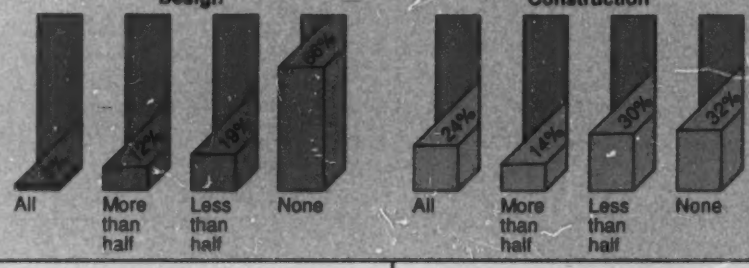
21 (—) **$155.40**
Watt Industries
P.O. Box 2114
Los Angeles, CA 90406

Known for office buildings, shopping centers, single-family housing and hotel development. Building methods used include construction management from an outside firm, fast-track scheduling and competitive bidding for construction. Less than 50 percent of design, but more than 50 percent of construction is done in house. Seventy percent of what was built was sold. *Scott Watt, Sr. VP*

13 (20) **$220.00**
Hartz Mountain Industries Inc.
400 Plaza Drive
P.O. Box 1411
Secaucus, NJ 07094

Warehouse and distribution centers account for 40 percent of activity, followed by mixed-use projects (40 percent). More than 50 percent of design is performed in house. Building methods used include fast-track scheduling and competitive bidding for construction. All buildings were built for lease to others. Recently established a residential department. *Keith Michels, VP Design; John Comer, VP Const.*

How much work do the Diversified Developers do in house?



14 (46) **$200.00**
Transpacific Development Co.
2377 Crenshaw Blvd.
Suite 300
Torrance, CA 90501-3325

No construction or design is performed in house by this privately owned firm. Building methods used include fast-track scheduling. Best-known for large-scale, mixed-use and high-rise projects in California, Oregon and Arizona. All buildings were leased to others. A recent project is Arco Center in Los Angeles. *Shurl Curci, Chmn.; Peter H. Adams, Pres.*

18 (33) **$160.00**
Birtcher
27611 La Paz Road
Laguna Niguel, CA 92656

Above figure includes $10 million of reconstruction. Most activity of this privately owned firm is concentrated in Western U.S. All construction is performed in house and leased to others. Offices account for 50 percent of construction. *Andrew L. Youngquist, Pres.; Tom Ostensen, VP Oper.; Gene Columbini, VP Admin.*

22 (7) **$155.00**
Homart Development Co.
55 W. Monroe St.
Chicago, IL 60603

A subsidiary of Coldwell Banker Real Estate Group, which is part of Sears, Roebuck and Co. No design or construction is performed in house. Office and retail projects account for most activity. All buildings built were leased to others. Recent projects include Ten Bank Street, an office project in White Plains, N.Y. *Adulbert Drogosz, Sr. VP, Design & Const.*

15 (30) **$184.00**
BetaWest Properties Inc.
1999 Broadway
Suite 2000
Denver, CO 80202

Best-known for commercial office buildings and large mixed-use projects, this subsidiary of U.S. West Inc. operates corporate development offices in Washington, D.C., and Orange County, Calif. All buildings were built for lease to others. Mixed-use facilities account for 59 percent of activity. No design or construction is performed in house. *William B. Moore, VP Des.; Robert Yelick, VP Implementation*

19 (24) **$157.50**
Cabot, Cabot & Forbes
60 State St.
38th Floor
Boston, MA 02109

Construction volume was estimated by *BD&C*. Typically, this privately owned firm performs more than 50 percent of construction in house. The majority of its buildings are leased to others. Best-known for office buildings and suburban business centers. *Ferdinand Colloredo-Mansfeld, Chmn.; Michael Rushman, Pres.*

23 (31) **$150.00**
Morton Buildings
Box 216
Watseka, IL 60970

This privately owned firm handles more than 50 percent of design and construction in house. Building methods used include construction management from an outside firm and competitive bidding for construction. All buildings were built for sale. A recent project is Dairyland Seed in Gibson City, Ind. *Ronald J. Sanders, Mgr.*

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24 (—) $143.56
Gosnell Builders
2728 W. 24th St.
Phoenix, AZ 85008

Above figure includes $21 million of reconstruction. This privately owned firm handles all design and construction in house. Eighty-four percent of its buildings were leased to others, and 15 percent were sold. Best-known for mixed-use, master-planned communities, resorts and corporate offices. Most activity was in Arizona and California, but firm is expanding into Nevada and Hawaii. *Rick Kafka, Sr. VP, RE & Const.*

Nearly half of the 80 firms were involved in retail development

33 (—) $91.67
Amerimar Realty Co.
841 Chestnut St., #1200
Philadelphia, PA 19107

Best-known for taking over troubled projects. Above figure includes $5.5 million of reconstruction. No design and less than 50 percent of construction is performed in house by this privately owned firm. Multifamily residential projects account for 40 percent of activity, followed by hotel/motel construction (35 percent). A recent project is the Rittenhouse, a $120 million hotel/condo complex in Philadelphia. *David G. Marshall, Chmn.*

25 (41) $137.20
Tooley & Co.
11150 Santa Monica
Los Angeles, CA 90025

All projects were built for lease. No design or construction is performed in house. Above figure includes $10.2 million of reconstruction. Offices account for 90 percent of activity, followed by high-tech industrial projects (10 percent). Recently added 3 million square feet to its leasing and management portfolio. Jamboree Center in Irvine, Calif., is a recent project. *Craig Ruth, Pres.*

29 (37) $103.14
Cali Associates
11 Commerce Drive
Cranford, NJ 07016

Construction volume was estimated by *BD&C*. Offices buildings account for 99 percent of activity. This privately owned firm performs all construction and less than 50 percent of design in house. Best known for office buildings in northern New Jersey. Recent projects include International Finance Tower in Jersey City, N.J. *John J. Cali, Sr. Ptnr.; Brant Cali, Ptnr.*

34 (—) $90.00
W.M. Grace Development Co.
7575 N. 16th St.
Suite 1
Phoenix, AZ 85020

Above figure includes $14 million of reconstruction. Retail projects account for 65 percent of activity. All projects were built for lease to others. Best-known for shopping center and hotel construction in Arizona. All construction but less than 50 percent of design was done in house by this privately owned firm. *W.M. Grace, Pres.; Howard T. Grace, VP; Richard Best, VP*

26 (5) $137.00
The Rouse Co.
10275 Little Patuxent Parkway
Columbia, MD 21044-3456

Firm is best-known for retail projects and mixed-use commercial office buildings throughout the U.S. Less than 50 percent of design and construction is performed in house. All projects were built for lease to others. Recent projects include Arizona Center in Phoenix and the Blue Cross/Blue Shield Building in Owings Mills, Md. *Anthony F. Albanese, Dir., Const.; R. Bruce Armiger, VP, Dir., Const.*

30 (—) $103.00
Hawthorne Realty Group
10275 W. Higgins Road
Suite 200
Rosemont, IL 60018

Above figure includes $10 million of reconstruction. Office buildings account for 90 percent of activity. All projects were built for lease to others. Less than 50 percent of design and construction is done in house. Building methods used include competitive bidding for construction. A recent project is the 550,000-sq.-ft. Tri-State International Office Center in Lincolnshire, Ill. *Robert Finke, Exec. VP*

35 (11) $89.50
Prentiss/Copley Investment Group
1717 Main St., #5000
Dallas, TX 75201

Building methods used include construction management from an outside firm, negotiated contracts for design and construction and fast-track scheduling. All projects were built for lease to others. Best-known for development of office and industrial parks. Recent projects include Pureland Business Center in Philadelphia. *John Lehigh, VP, Const.*

27 (10) $115.40
Equitable Real Estate Investment Management Inc.
3414 Peachtree Road, N.E.
Suite 1000
Atlanta, GA 30326

Offices accounted for 83 percent of activity. Ninety-five percent of projects were built for lease to others, and 4 percent were sold. No design or construction is performed in house. Best-known for urban and suburban office developments throughout the U.S. A recent project is Cedar Springs Office Building in Dallas. *Douglas A. Tibbetts, Pres., CEO*

31 (—) $100.00
Tishman Realty & Construction Co. Inc.
666 Fifth Ave.
New York, NY 10103

Construction subsidiary is Tishman Construction Corp. No design is performed in house. All buildings were built for lease to others. Best-known for hotel and office building projects. Active in Southeast, Midwest and West Coast, but expanding into New England. *John L. Tishman, Chmn.; Guy B. Lawrence, Exec. VP.*

36 (49) $82.60
Kevin F. Donohoe Co. Inc.
Curtis Center
Suite 700
Philadelphia, PA 19106

Above figure includes $35 million of reconstruction. No design and less than 50 percent of construction is performed in house by this privately owned firm. All projects were built for lease to others. Best-known for office and shopping center construction. Retail projects account for 73 percent of activity. *Kevin F. Donohoe, Pres., CEO; J. Michael O'Brien, Pres., Shopping Ctr. Div.*

28 (32) $111.60
Charles E. Smith Cos.
2345 Crystal Drive
Crystal City
Arlington, VA 22202

Construction volume was estimated by *BD&C*. Typically, this privately owned firm performs all construction in house. No design is done in house. Building methods usually used include negotiated contracts for design. Office buildings account for most activity. *Marvin Dekelboum, Exec. VP*

32 (29) $94.50
Century Development Corp.
5 Greenway Plaza
Suite 1700
Houston, TX 77046

Construction volume was estimated by *BD&C*. Typically, building methods used by this privately owned firm include competitive bidding for construction and negotiated contracts for construction and design. Fifty percent of what was built was leased to others, and 50 percent was sold. Office buildings account for most of company's activity. *Richard Everett, Pres.*

37 (38) $82.26
Bellemead Development Corp.
4 Becker Farm Road
Roseland, NJ 07068

Construction volume was estimated by *BD&C*. Bellemead Construction Corp. is construction subsidiary. More than 50 percent of design done in house. Best-known for office buildings and industrial warehouses. Offices account for 90 percent of activity. Ninety-eight percent of activity involved buildings built for lease, and 2 percent were projects built for sale. *James E. Kearney, Sr. VP*

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DIVERSIFIED DEVELOPERS

38
(40)
$81.00

Fifield Development Corp.
225 W. Washington, #1500
Chicago, IL 60606

This privately owned firm does no design and less than 50 percent of construction in house. Above figure includes $2 million of reconstruction. Best-known for urban and suburban office buildings and hotels. Offices account for 70 percent of activity. All projects were built for lease. *Steven D. Fifield, Chmn.; Robert E. Smietana, Exec. VP; Malcolm S. Sina, Exec. VP*

39
(50)
$80.00

Foster International Development Inc.
P.O. Box 67
Pittsburgh, PA 15230

Above figure includes $34 million of reconstruction. Offices accounted for 94 percent of activity. All projects were built for lease. No construction or design is performed in house. Best known for suburban office projects. Recent work includes Foster Plaza, an office project in Pittsburgh. *William A. Robinette, Pres.; Michael S. Cahn, VP*

40
(62)
$78.84

Heller Construction Co. Inc.
205 Mill Road
Edisor., NJ 08817

Construction volume was estimated by *BD&C*. This privately owned firm performs all design and construction in house. Best-known for building large distribution and manufacturing facilities. Typically, all projects are built for lease to others. Very active in New York/New Jersey metropolitan area. *Ike Heller, Pres., CEO.; Jeffrey J. Milanaik, VP*

41
(75)
$75.78

The Memorial Corp.
3025 Maxroy
Houston, TX 77008

Construction volume was estimated by *BD&C*. Typically, this privately owned firm performs no design and less than 50 percent of construction in house. Best-known for commercial office projects and medical-related facilities. All projects were built for lease to others. Building methods used include negotiated contracts for construction. Active primarily in the South, Southwest and Southeast. *James E. Floyd, Exec. VP*

42
(25)
$75.00

DeMatteis Organization
EAB Plaza
West Tower
Uniondale, NY 11556

Prison and correctional facilities accounted for 50 percent of activity, followed by offices (30 percent). Eight percent of activity was built for sale. All construction but no design is handled in house by this privately owned firm. Building methods used include negotiated contracts for design and construction. A recent project is Portside, a condominium complex in Jersey City, N.J. *Richard DeMatteis, Pres.; Alfonso DeMeo, Exec. VP; Anthony Vaccarello, VP*

43
(54)
$75.00

Stein & Co.
208 S. LaSalle St.
Suite 1630
Chicago, IL 60604

Building methods used include fast-track scheduling and competitive bidding for construction. No design is handled in house by this privately owned firm. Offices account for 70 percent of activity. Sixty percent of what was built is owned and occupied by the company, and 40 percent was leased to others. A recent project is AT&T Corporate Center in Chicago. *Vincent P. Ziolkowski, Sr. VP, Design, Const.*

44
(59)
$68.75

James-Lewis Corp.
1301 Lancaster Ave.
Berwyn, PA 19312

Best-known for residential development and shopping center construction. No design but all construction performed in house by this privately owned firm. Recently established an office for residential sales and land acquisition. Ninety-two percent of projects were built for sale, and 7 percent for lease. *Lewis J. Brandolini, Pres.; James B. Brandolini, Exec. VP*

45
(47)
$64.00

Centre Development Co. Inc.
14001 N. Dallas Parkway
Suite 800 Dallas, TX 75240

Above figure includes $6 million of reconstruction. Warehouse/distribution centers account for 40 percent of activity, followed by offices (30 percent). Seventy-five percent of activity involved buildings built for lease to others, and 25 percent built for sale. A recent project is Matsushita Electric, a 1 million-sq.-ft. office project in Elgin, Ill. *Jeffrey L. Swope, Ptnr., Exec. VP; Michael D. DeGrazier, Ptnr., Exec. VP*

46
(52)
$63.00

The Centennial Companies
8614 Westwood Center Drive
Vienna, VA 22182

This privately owned firm specializes in office buildings and large-scale, mixed-use business parks. Offices account for 75 percent of activity. Eighty percent of activity involved buildings built for lease to others, and 20 percent built for sale. All construction, but no design is performed in house. *Pete T. Scamardo, Pres.; W.M. Sweetser, Sr. VP, Const.; R. Jeffery Arnold, Sr. VP, Dev.*

47
(34)
$60.00

Boston Properties
8 Arlington St.
Boston, MA 02116

Above figure includes $10 million of reconstruction. Eighty percent of activity involved buildings built for lease, and 18 percent built for sale. Best-known for office building and hotel development. Active primarily in New York, Washington, D.C., and Boston. A recent project is 195 West, a 63,000-sq.-ft. office building in Waltham, Mass. *Edward H. Linde, Pres.; Robert B. Swett, Exec. VP*

48
(78)
$60.00

The Landmarks Group
One Concourse Parkway
Suite 600
Atlanta, GA 30328-5346

No construction or design is performed in house by this privately owned firm. Building methods used include fast-track scheduling and negotiated contracts for design and construction. Best-known for office, hotel and retail projects. Offices account for 87 percent of activity. Recently opened a leasing/property management office in central Florida. *W. Ed Walker, VP*

49
(36)
$60.00

Manufacturers Life Insurance Co.
200 Bloor St., East
Toronto, Ontario, M4W 1E5
Canada

This mutual insurance firm handles no design or construction in house. Best-known for commercial office buildings. All projects were built for lease to others. Building methods used include construction management from an outside firm and competitive bidding for construction. *S.F. Dakin, Sr. VP; J.E. Paton, VP, Devel.*

50
(55)
$59.00

Rosen Associates
333 Jericho Turnpike
Jericho, NY 11753

Best-known for shopping center development. Retail projects account for 90 percent of activity. Ninety-five percent of projects were built for lease to others, and 5 percent for sale. Less than 50 percent of design and more than 50 percent of construction is done in house. *Robert A. Rosen, Pres.; Anthony Virga, Dir., Const.; Florence Rosen, Gen. Mgr.*

51
(65)
$54.40

Santa Fe Pacific Realty Corp.
20 Mission St.
30th Fl.
San Francisco, CA 94150

Best-known for industrial, mixed-use, office and retail projects. Warehouse/distribution centers accounted for 80 percent of activity. All projects were built for lease to others. No design or construction done in house. Building methods used include construction management from an outside firm. *Vernon B. Schwartz, Pres., CEO; Jeffrey K. Gwin, VP, Dev.*

52
(51)
$54.00

Allstate Insurance Co.
Allstate Plaza E-4
Northbrook, IL 60062

Construction volume was estimated by *BD&C*. Typically, less than 50 percent of design and construction is performed in house. All activity involved buildings built for lease to others. Best-known for suburban office projects. Building methods used include negotiated contracts for design and construction. *Kenneth S. Klimala, Sr. Portfolio Mgr.*

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53 (—) **$50.00**

Miglin-Beitler Inc.
Madison Plaza
200 W. Madison St.
Chicago, IL 60606

Best-known for office building construction. All projects were built for lease to others. Building methods used include construction management from an outside firm and negotiated contracts for design and construction. A recent project is Oakbrook Terrace Tower, a 700,000-sq.-ft. office building in Oakbrook Terrace, Ill. *Raymond Chin, Sr. VP, Const.*

Miglin-Beitler's 31-story Oakbrook Terrace Tower is the tallest building in suburban Chicago.

62 (45) **$35.00**

Centrum Properties Inc.
566 W. Adams St.
Chicago, IL 60606

Above figure includes $15 million of reconstruction. No design or construction is performed in house by this privately owned firm. Best-known for retail developments in Chicago area. All activity involved buildings built for lease to others. A recent project is Riverpoint Center, a 200,000-sq.-ft. shopping center in Chicago. *Larry Ashkin, Pres.*

54 (73) **$47.23**

Lindsay Corp.
1030 Woodcrest Terrace Drive
St. Louis, MO 63141

Best-known for suburban office buildings and retail centers. Offices account for 61 percent of activity. Active primarily in Ohio and Missouri. Less than 50 percent of design and construction performed in house. Seventy percent of activity consisted of buildings built for lease to others, and 30 percent buildings for sale. *J. Dale Perkinson, Chmn., CEO; Randall M. Griffin, Pres., CEO, Devel.*

58 (22) **$40.00**

Chiefaro Co.
One International Place
Suite 4600
Boston, MA 02110

No construction or design is performed in house by this privately owned firm. Best-known for commercial office buildings in the Northeast. Offices account for 95 percent of activity, followed by manufacturing/industrial facilities (5 percent). Ninety-nine percent of activity involved buildings built for lease to others. *Theodore A. Oatis, Ptnr.*

63 (8) **$32.90**

Spaulding & Slye
25 Burlington Mall Road
Burlington, MA 01803

Spaulding & Slye Construction Co. is firm's construction subsidiary. Offices account for 79 percent of activity, followed by parking garages (11 percent). Above figure includes $6.5 million of reconstruction. A recent project is Tyson's Executive Plaza II, a 225,000-sq.-ft. office building in McLean, Va. *James B. Karman, Pres.; John S. Konopka, Sr. VP, Const.*

55 (60) **$47.00**

West*Group
1600 Anderson Road
McLean, VA 22102

This privately owned firm handles all construction but less than 50 percent of design in house. All activity involved buildings built for lease to others. A recent project is Research West I and II, a 250,000-sq.-ft. office project in Rockville, Md. *G.T. Halpin, Pres.; C.B. Ewing Jr., Exec. VP*

59 (39) **$40.00**

Martin Selig Real Estate
6200 Columbia Center
701 Fifth Ave.
Seattle, WA 98104-7090

Best-known for office building projects in the Northwest. All activity involved buildings built for lease to others. More than 50 percent of design is done in house. Building methods used include competitive bidding for construction. A recent project is Met Park II, an office building in Seattle. *Martin Selig, Owner*

64 (—) **$31.00**

Gateside Corp.
150 White Plains Road
Suite 401
Tarrytown, NY 10591

Above figure includes $1 million of reconstruction. Active primarily in the Northeast. No design and less than 50 percent of construction is performed in house. Offices accounted for 97 percent of activity. All projects were built for lease to others. A recent project is Corporate Center at Rye, a 174,000-sq.-ft. office project in Rye, N.Y. *Norman M. Feinberg, Pres.*

56 (57) **$45.00**

Bank of America Corp.
560 Davis St.
San Francisco, CA 94111

Construction volume was estimated by *BD&C*. Typically, no construction and less than 50 percent of design is done in house by this publicly traded firm. Office construction accounts for the major portion of work. Firm is active primarily in California. *Dan Costello, Exec. VP*

60 (68) **$38.00**

TOLD Corp.
2587 Teller Road
Newbury Park, CA 91320

Above figure includes $5 million of reconstruction. Best-known for free-standing industrial buildings of 10,000 to 50,000 square feet. Active primarily in California, Minnesota and Wisconsin. Expanding into retail and residential operations. Sixty percent of activity involved buildings built for lease to others. *Pat Hall, Pres.; Larry Palmertree, Pres., TOLD Construction*

65 (—) **$30.00**

Towermarc Corp.
3030 Rocky Point Drive
Suite 150
Tampa, FL 33607

Towermarc Construction Corp. is firm's construction subsidiary. No design is performed in house. Best-known for office projects. Offices accounted for 70 percent of activity. All activity involved buildings built for lease to others. A recent project is Tower Place, a 180,000-sq.-ft. office project in Tampa. *Eric Muller, Coord., Design & Const.*

57 (53) **$40.26**

Bramalea USA, Urban Properties Inc.
901 Main Street
Suite 5000
Dallas, TX 75202

Above figure includes $6.1 million of reconstruction. No design or construction is performed in house by this publicly traded firm. Offices account for 63 percent of activity, followed by retail (37 percent). All activity involves buildings built for lease to others. *Douglas N. Salter, Pres.; Robert Sharp, Exec. VP*

61 (71) **$36.00**

Welsh Companies Inc.
11200 West 78th St.
Eden Prairie, MN 55344

Construction volume was estimated by *BD&C*. Typically, this privately owned firm handles all construction but no design in house. Best-known for office and retail projects in the Twin Cities area. Welsh Construction is construction subsidiary. *Dennis J. Doyle, Pres., CEO; E. Paul Dunn, VP, Devel.; Brad Bainey, VP, Const.*

66 (13) **$28.65**

Schostak Bros. & Co. Inc.
26913 Northwestern Highway, #600
Southfield, MI 48034

No design or construction is performed in house by this privately owned firm. Building methods used include fast-track scheduling and construction management from an outside firm. Mixed-use projects account for 60 percent of activity. Best-known for regional shopping centers. Active primarily in the Northwest. *Stephen J. Duczynski, VP, Dir., Devel.; Michael V. Polsinelli, VP, Devel.*

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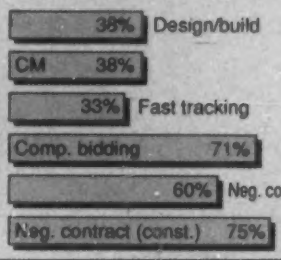
DIVERSIFIED DEVELOPERS

67 (61) **$28.20**
JBG Companies
1250 Connecticut Ave., NW
Washington, DC 20036

Above figure includes $4 million of reconstruction. Best-known for office building construction, which accounted for 95 percent of activity. Building methods used include fast-track scheduling. All activity involved buildings built for lease to others. A recent project is Bethesda Crescent, a 12-story office building in Bethesda, Md. *Robert H. Braunohler, Prin.; Carl W. Slagle, VP, Const.*

How many of the Diversified Developers use these delivery processes?



76 (76) **$16.20**
Continental Development Corp.
2041 Rosecrans Ave.
P.O. Box 916
El Segundo, CA 90245

Construction volume was estimated by *BD&C*. Continental Construction Corp. is firm's construction subsidiary. Best-known for office construction in Los Angeles area. Less than 50 percent of design is performed in house by this privately owned firm. All activity involves buildings built for lease to others. *Richard C. Lundquist, Pres.*

68 (66) **$23.23**
The Sudler Cos.
75 Eisenhower Parkway
Roseland, NJ 07068

Above figure includes $2.2 million of reconstruction. Best-known for corporate park developments. Offices account for 67 percent of activity. All activity involved buildings built for lease to others. Building methods used include negotiated contracts for design and construction. *David S. Steiner, Exec. VP; Robert Applegate, VP, Const.; Jacob M. Block, VP, Arch.*

72 (69) **$19.46**
Clover Development Assoc.
8200 Greensboro Drive
Suite 1500
McLean, VA 22102

Construction volume was estimated by *BD&C*. Typically, this privately owned firm handles no design or construction in house. Best-known for commercial office projects. Active primarily in the Washington, D.C., metropolitan area. Offices accounted for approximately 50 percent of activity. Fifty percent of activity involved buildings built for lease to others, and 50 percent buildings built for sale. *Edward Daniels, Pres.*

77 (—) **$15.50**
Merritt Co.
2066 Lord Baltimore Drive
Baltimore, MD 21207

All design and construction is performed in house by this privately owned firm. Warehouse/distribution centers account for 70 percent of construction. Active primarily in Baltimore and Washington, D.C., area. *Scott Dorsey, General Ptnr.; Charles Rohrbaugh, Ptnr.*

69 (79) **$20.70**
AIG Realty
70 Pine St.
New York, NY 10270

Construction volume was estimated by *BD&C*. Parent firm is American International Group. Typically, no construction and less than 50 percent of design is performed in house. Building methods used include fast-track scheduling and construction management from an outside firm. *Thomas D. McCann, Pres.; Norman Cicelsky, Dir., Arch.*

73 (—) **$18.50**
Rosewood Development
33 Boston Post Road, West
Marlboro, MA 01752

Above figure includes $500,000 of reconstruction. Best-known for office projects. Active primarily in eastern Massachusetts. Currently expanding into industrial facilities. No design and less than 50 percent of construction is performed in house by this privately owned firm. *Robert J. DePietri, Pres.; Robert J. DePietri Jr., Treas.*

78 (—) **$15.00**
Rubloff Inc.
111 W. Washington St., #1700
Chicago, IL 60602

Lake Michigan Construction Co. is firm's construction subsidiary. No design is performed in house by this privately owned firm. Best-known for urban and suburban office and multiuse projects. Offices account for 95 percent of activity. Majority of work is in Chicago, Washington, D.C., and San Francisco. *J. Purinton, Sr. VP; M. McCullough, Sr. VP, Const.*

70 (—) **$20.00**
Crown Life Insurance Co.
160 Bloor St.
Toronto, Ontario M4W 1B9
Canada

Best-known for office construction in the Toronto area. No design is performed in house. All activity involved buildings built for lease to others. Building methods used include construction management from an outside firm and competitive bidding for construction. A recent project is Philadelphia Home & Design Center, a 230,000-sq.-ft. retail facility. *A.G. Wirth, Sr. VP, CIO; M.S. Uchida, VP, Prop.*

74 (63) **$18.00**
LaSalle Partners Ltd.
11 S. LaSalle St.
Chicago, IL 60603

Above figure includes $14 million of reconstruction. Firm has offices in Chicago, Washington, D.C., and Los Angeles. Ninety-nine percent of activity involved buildings built for lease to others. No design and less than 50 percent of construction is performed in house. A recent project is Union Station in Washington, D.C., a retail/train station redevelopment project. *Hossein Youseffi, Mng. Dir.; Jack Train, Sr. VP*

79 (—) **$15.00**
Cushman Investment and Development
333 S. Grand Ave.
Los Angeles, CA 90071

No design or construction is performed in house by this privately owned firm. Offices account for 75 percent of activity, followed by hotel/motel projects (20 percent). Building methods include competitive bidding for construction and negotiated contracts for design and construction. A recent project is Landmark Square, a 438,000-sq.-ft. office complex in Long Beach, Calif. *Robert A. Alleborn, Pres.*

71 (—) **$20.00**
Dermody Properties Inc.
P.O. Box 7098
Reno, NV 89510

United Construction Co. is firm's construction subsidiary. More than 50 percent of design is performed in house. Best-known for industrial built-to-suit projects. Warehouse/distribution centers accounted for 75 percent of activity. All activity involved buildings built for lease to others. Recently opened an office in Las Vegas. *Michael C. Dermody, Pres., CEO; Bruce D. Storey, VP; Mark Glenn, Treas.*

75 (56) **$17.10**
Mulligan/Griffin
1700 Research Blvd.
Rockville, MD 20850

Construction volume estimated by *BD&C*. Typically, no design or construction is performed in house by this privately owned firm. Best-known for fast-track development of office facilities. Active primarily in Maryland and Virginia. *George G. Mulligan, CEO; John F. Griffin, Pres.*

80 (64) **$14.40**
Lee Sammis Associates Inc.
8300 Greensboro Drive
Suite 1000
McLean, VA 22102

This privately owned firm performs no design but more than 50 percent of construction in house. Building methods used include fast-track scheduling, competitive bidding for construction and negotiated contracts for design. Offices accounted for 35 percent of activity. Eighty percent of activity involves buildings built for lease to others, and 20 percent projects for sale. *Carl M. Beale III, VP, Dir., Const.*

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RETAIL DEVELOPERS

REMODELING DRIVES CONSTRUCTION ACTIVITY UPWARD

Retailers upgrade their stores in order to attract customers in an increasingly competitive industry

1 (9) **$482.00**
May Department Stores Co.
611 Olive St.
St. Louis, MO 63101

Firm remodeled 24 department stores, totaling more than 2.1 million square feet of retail space, during 1988. Company's 1989-1993 expansion plan calls for 68 new department stores, adding approximately 9.3 million square feet of retail space, and investing about $975 million in new stores and an additional $550 million in remodels of existing stores. *Dean Wolfe, Exec. VP, RE; J. Rutenis, Pres., May Design & Const. Co.*

2 (1) **$396.00**
Dayton Hudson Corp.
777 Nicollet Mall
Minneapolis, MN 55402

In 1988, company's Target division opened 25 stores and purchased 31 stores in the Southeast that will be remodeled and operated as part of a 60-store expansion program. Mervyn's division opened 14 new stores and completed development of its remodel prototype. Lechmere division added three new 60,000-sq.-ft. stores in 1988 and two new stores in Birmingham, Ala., this year. *James T. Hale, Sr. VP*

3 (6) **$344.49**
Melvin Simon & Associates
P.O. Box 7033
Indianapolis, IN 46207

Community center openings in 1988 included Phases I and II of Newport Plaza in Jersey City; West Ridge Plaza in Topeka; and Phase II of Lake View Plaza in Orland Park, Ill.; Regency Plaza in St. Charles, Mo.; and Matteson (Ill.) Plaza. Regional mall openings included Phase I of Rolling Oaks Center in San Antonio and Sunland Park Mall in El Paso, Texas. *C. Buzz Weisiger, Sr. VP, Design, Eng. & Const.*

4 (10) **$327.25**
Albertson's Inc.
P.O. Box 20
Boise, ID 83726

The food retailer's 1988 construction activity involved 45 new stores totaling $256 million and 42 remodels totaling $71 million. Projects consisted of 75 percent retail facilities, 24 percent warehouse/distribution centers and 1 percent offices. Company primarily leases from others in buildings built to its specifications or uses sales/leaseback arrangements. *Wendell E. Hornecker, Sr. VP, Design & Const.*

5 (8) **$228.00**
K mart Corp.
3100 W. Big Beaver Road
Troy, MI 48084

Company opened 64 K mart stores in the U.S. and Canada in 1988, compared with 36 openings in 1987. A store enlargement program saw the conversion of 22 smaller locations to full-size K mart stores. Of the 23 K mart stores that were closed in 1988, 16 were relocated to larger stores in the same market and four were converted to Builders Square stores (see separate listing). *Mike Skiles, VP, Corp. Fac.; James Vachon, Gen. Mgr. Const.*

6 (2) **$226.76**
Wal-Mart Stores Inc.
Bentonville, AR 72716

Company's total retail space was expanded to 91.6 million square feet, a net increase of 13.8 million square feet, or 18 percent, in the year ended Jan. 31, 1989. Openings included 145 Wal-Mart stores, 21 Sam's Wholesale Club units, two Wal-Mart Supercenters and one Hypermart USA. The first 110,000-sq.-ft. prototype Wal-Mart store was opened in Gonzalez, La. *Tom Seay, Sr. VP, RE & Const.; Robert Murphey, VP, Const.*

7 (5) **$206.80**
Sears, Roebuck and Co.
Dept. 824X, Sears Tower
Chicago, IL 60684

The Merchandise Group opened 13 new multiline stores and relocated 18 others. It introduced its "Brand Central" home appliance "superstore within a store" concept at 18 Indiana and Kentucky stores, and planned to extend it to 400 additional stores in 1989. Over the next five years, 313 stores are planned, including 226 new locations and 87 relocations. *Claude Ireson, VP, Fac. Plng.*

8 (11) **$190.00**
Leo Eisenberg Co.
1101 Walnut St. - Suite 800
Kansas City, MO 64106

Current projects include the 248,000-sq.-ft. Regency Park center in Overland Park, Kan.; the 250,000-sq.-ft. Center Point Place discount center in Warminster, Pa.; the 200,000-sq.-ft. North Pointe Plaza discount center in Charleston, S.C.; and the 150,000-sq.-ft. Phase I of Water Tower Place, a mixed-use development in Arnold, Mo. Office buildings comprised about 20 percent of company's activity. *Marty Goodman, Pres.; Irv Maizlish, Chmn.*

***Melvin Simon & Associates developed** the 660,000-sq.-ft. Fashion Mall at Plantation, Fla., which opened in late 1988.*

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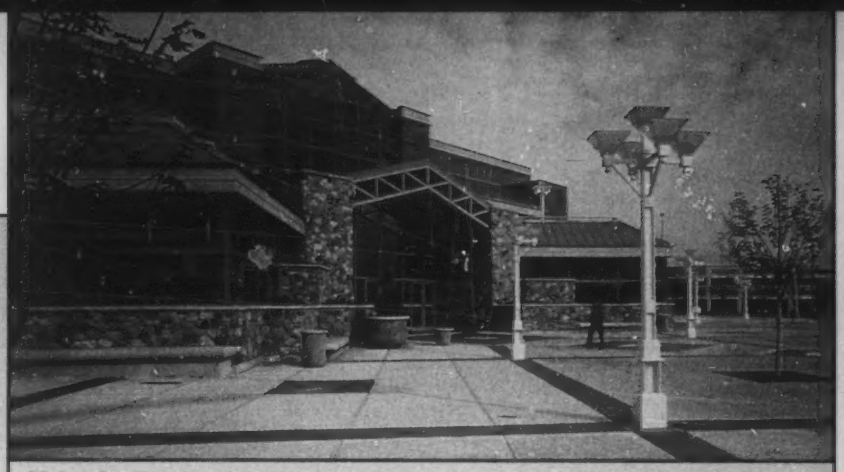
RETAIL DEVELOPERS

9 (4) **$180.00**
Kroger Co.
1014 Vine St.
Cincinnati, OH 45201

Volume was estimated by *BD&C*. During 1989, the company planned to spend about $180 million for an estimated 140 new, remodeled or expanded supermarkets and 25 new convenience stores. In the years 1990-1994, it expects to build about 125 new stores, remodel about 460 existing stores and expand another 30 units, for an estimated total capital expenditure of $800 million. *Lorrence Kellar, Group VP; Jack Satterwhite, Dir., Eng. Svcs.*



Hahn Co. developed Bridgewater Commons, an 894,000-sq.-ft. retail center in Bridgewater, N.J., which opened in 1988.

10 (7) **$158.00**
J.C. Penney Co. Inc.
14841 North Dallas Parkway
Dallas, TX 75240

During 1988 the company opened 20 stores in metropolitan markets (primarily in regional shopping centers). The majority were relocations of existing units. It opened 23 stores in nonmetropolitan areas or satellite towns within metropolitan areas. A total of 66 stores were closed. The company has selected Harwood K. Smith & Partners to design its new central office in Plano, Texas. *John A. Wells, Sr. VP, Dir., RE Svcs.*

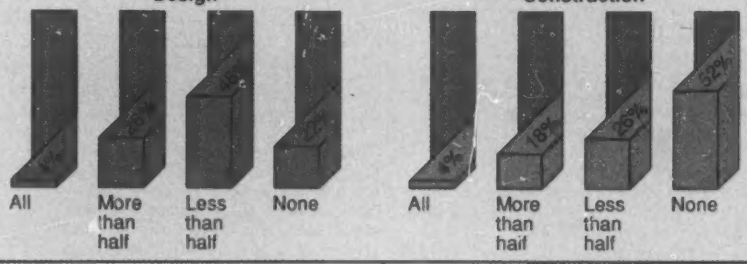
12 (14) **$110.00**
General Growth Cos.
215 Keo
Des Moines, IA 50306

Firm completed the 1 million-sq.-ft. Bellis Fair Mall in Bellingham, Wash. Slated for completion in 1990 are the 650,000-sq.-ft. Bayshore Mall in Eureka, Calif.; the 650,000-sq.-ft. Birchwood Mall in Port Huron, Mich.; and the 700,000-sq.-ft. Gateway Mall in Eugene-Springfield, Oregon. To be completed in 1991 is a Dayton's Department Store at the Fox River Mall in Appleton, Wis. *Robert Dowell, VP, Const.; Derwood Quade, VP, Arch.*

15 (—) **$84.00**
Faison Associates
122 E. Stonewall
Charlotte, NC 28202

Projects completed in 1989 include the 800,000-sq.-ft. Southpark Mall in Colonial Heights, Va., and a 68,000-sq.-ft. K mart store in Laurinburg, N.C. Other current projects are the $42 million Tower Place Mall in Cincinnati, the $82 million 100 East office tower in Milwaukee and an office building in Charlotte. Office projects comprised 22 percent of firm's 1988 activity. *Coy Shields, VP, Design, Const.; Tony Skillbeck, VP Design, Const.*

How much work do the Retail Developers do in house?



16 (20) **$71.17**
American Stores Co.
5201 Amelia Earhart Drive
Salt Lake City, UT 84116

American Stores Co. is a holding company that operates 1,917 retail units in 39 states. It plans to spend about $2.5 billion on capital improvements over the next five years. Current activity by subsidiaries includes the opening of nine combination stores by Acme Markets, eight new combination stores by Jewel-Osco and the remodeling of 45 stores over three years by Skaggs Alpha Beta. *Prentice Merritt, Sr. VP, Plng. & Devel.*

11 (16) **$138.00**
Winn-Dixie Stores Inc.
P.O. Box B
Jacksonville, FL 32203

Volume was estimated by *BD&C*. During 1988 the company opened 61 stores, each averaging 37,300 square feet; 26 stores were enlarged or remodeled. Retail area totaling 36.5 million square feet was increased by 1.8 percent. At the close of its most recent fiscal year on June 26, the company operated 1,229 supermarkets, with 25 percent of them larger than 35,000 square feet. *Cecil Burns, Store Design Dir.; J.D. Dismuke, RE coordinator*

13 (—) **$106.00**
Hahn Co.
4350 LaJolla Village Drive
San Diego, CA 92122

Projects completed in 1988 include the 348,000-sq.-ft. East Hills Mall in Bakersfield, Calif.; the 900,000-sq.-ft. Bridgewater (N.J.) Commons; and the 500,000-sq.-ft. Sierra Vista Mall in Clovis, Calif. The company, a subsidiary of Canadian-based Trizec Ltd., is best-known as a developer of regional shopping centers on the West and East coasts. *Maynard Rice, VP, Design & Const.; William H.W. Doyle, Sr. VP, Dev.*

17 (26) **$60.00**
Great Atlantic & Pacific Tea Co.
2 Paragon Drive
Montvale, NJ 07645

In the year ending Feb. 28, 1989, the company spent $32.7 million to construct 21 retail stores and $27.2 million to renovate 76 stores. It primarily leases from others in buildings built to its specifications, although 10 percent of its activity involved building to own and occupy. At the end of its most recent fiscal year, the company operated 1,000 stores in the eastern U.S. and 200 in Canada. *David A. Sorenson, VP, Const.*

Retailers view up-to-date stores as a key weapon

14 (15) **$86.00**
Edward J. DeBartolo Co.
7620 Market St.
Youngstown, OH 44512

Volume estimated by *BD&C*. Projects completed in 1988 include the 1 million-sq.-ft. Rivercenter in San Antonio, the 813,000-sq.-ft. New Orleans Centre and the 1 million-sq.-ft. Lakeland (Fla.) Square. Completed this year were the 931,000-sq.-ft. Port Charlotte (Fla.) Town Center and the 984,000-sq.-ft. Chesapeake (Va.) Square. *Floyd Zdrojkowski, VP, Eng. & Const.; James Sebastian, VP, Const. Field Oper.; Ken Schultz, VP, Const. Svcs.*

18 (—) **$60.00**
Woodward & Lothrop
2800 Eisenhower Ave.
Alexandria, VA 22314

Company is performing a $65 million, 1 million-sq.-ft. renovation of the John Wanamaker store in Center City Philadelphia, to be completed in 1991. Completed in 1989 were a 230,000-sq.-ft. retail renovation at Tysons Corner, Va., and a 190,000-sq.-ft. expansion/renovation at the Landmark Center in Alexandria, Va. *C.W. Merchant, Sr. VP, Store Plng. & Oper.; Neal Nealis, Div. VP, Const.; George Mathoes, Div. VP, Store Plng.*

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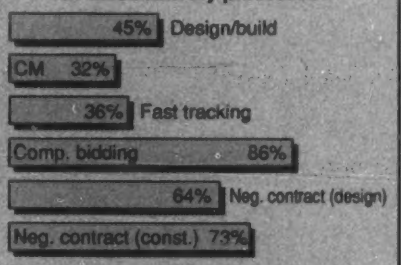
19 (—) **$53.00**

Neiman Marcus
2700 Renaissance Tower
1201 Elm St.
Dallas, TX 75270

The company has begun an aggressive expansion program with the goal of opening 10 to 12 new stores by 1995. A new store opened in August at the Galleria at Tysons II in McLean, Va. Others will open in Denver in 1990 and in Minneapolis in 1991. Stores in Atlanta, Washington, D.C., Bal Harbour, Fla., and Northbrook, Ill., will undergo major remodeling. *Thomas J. Lahnen, Sr. VP, Properties and New Store Devel.*

How many of the Retail Developers use these delivery processes?



27 (—) **$29.00**

Builders Square
100 Crossroads Blvd.
San Antonio, TX 78201

Activity consisted of $24 million of new construction involving nine stores and $5 million of reconstruction involving six stores. Activity was 75 percent to lease from others in buildings built to company specifications, 25 percent to own and occupy. Subsidiary of K mart Corp. (which is separately listed). *Gary Crull, Dir., Const.; S. Li, Des. Mgr.; C. Strom, Const. Mgr.*

20 (13) **$52.00**

Walgreen Co.
200 Wilmot Road
Deerfield, IL 60015

Company operates retail drug stores in 30 states and Puerto Rico, and is expanding into the Northeast. The 360,000-sq.-ft. first phase of a new distribution center in Mt. Vernon, Ill., will be completed next summer. Activity was 90 percent leasing from others in buildings built to company specifications. *William Shiel, VP, Fac. Dev.; Thomas Bergseth, Dir., Arch. and Eng.; Al Langefeld, Dir., Const.*

24 (22) **$31.00**

Price Development Co.
35 Century Parkway
Salt Lake City, UT 84115

Firm completed the 204-store Boise (Idaho) Town Square. The 400,000-sq.-ft. Phase I of the Red Cliffs Mall in St. George, Utah, with three anchor tenants and 50 other stores, will be completed in March 1990. Other current projects include three community centers in Oregon: Bailey Hill Village and Coburd Crossing in Eugene and Halsey Crossing in Gresham. *Thomas Mulkey, VP, Dev.; Carl Olson, Sr. VP, Asset Dev.*

28 (25) **$25.00**

Herring Group
13355 Noel Road
Dallas, TX 75240

All 1988 activity consisted of reconstruction, and was performed entirely for facilities leased to others. The company completed a $25 million reconstruction/addition at Park Place center in Little Rock. The company was formerly named Herring Marathon Group. *David Stautz, Sr. VP; Brad Tracy, VP*

21 (18) **$44.75**

Revco Drug Co.
1925 Enterprise Parkway
Twinsburg, OH 44087

Activity consisted of $42 million of new construction at 100 stores and $2.5 million of reconstruction at 50 stores. The company has stores in 30 states, excluding California, the Pacific Northwest, New England and the North Central states. Stores vary in size from 8,450 to 15,000 square feet. Predominantly builds to lease to others. *Marvin Solganik, Sr. VP, RE*

25 (24) **$30.00**

Carter Hawley Hale Stores
550 S. Flower St.
Los Angeles, CA 90071

Activity consisted of $10 million of construction involving three stores and $20 million of reconstruction involving 20 stores. Modernization was completed at 14 stores in the fiscal year ended July 30, 1988. New Thalhimers store opened in Charlotte, N.C., and construction has begun on the Broadway store in Santa Barbara, Calif. Four service facilities were renovated. *J. Scott Meyer, Sr. VP, Plng. & Const.; Robert Turner, VP, Const.*

29 (28) **$20.00**

TCC Center Companies Inc.
111 Third Ave., South
Minneapolis, MN 55401

Reconfiguration of the Smith Haven Mall in Lake Grove, N.Y., will be completed in 1990. Projects scheduled for 1991 completion include a $60 million renovation/expansion of Southdale Shopping Center. Edina, Minn.; a $20 million renovation/expansion of the Ala Moana Shopping Center in Honolulu; and a $30 million renovation/expansion of the Mall at Green Hills in Nashville, Tenn. *Douglas A. McChane, VP, Design & Plng.; Dale R. Everson, VP, Const. Svcs.*

22 (17) **$43.00**

TRF Pacific Inc.
P.O. Box 5727
Bellevue, WA 98006

Projects completed in 1988 include the $10 million Crossroads Plaza in Pico Rivera, Calif., and the $33 million Mountain Square in Upland, Calif. To be completed next year are a $24 million medical center in Puyallup, Wash.; a $10 million supermarket in Bellevue, Wash.; and the $35 million Willows Pond retail center in Puyallup. *Charles E. Hart, Exec. VP*

26 (21) **$30.00**

Montgomery Ward & Co.
844 Larrabee St. (4-4)
Chicago, IL 60671

Projects completed in 1989 included two remodelings, each involving 100,000 square feet, at stores in Tucson, Ariz., and Sterling Heights, Mich.; a new 130,000-sq.-ft. store in Niles, Ill.; and a new 120,000-sq.-ft. store in Ocala, Fla. In 1990 new stores will be completed in Waldorf, Md., and Salisbury, Md. *Donald L. Docken, VP, Merch. Plng. & Const.; Donald R. Hansen, Mgr., Const.; Norman E. Abplanalp, Corp. Arch.*

30 (27) **$8.00**

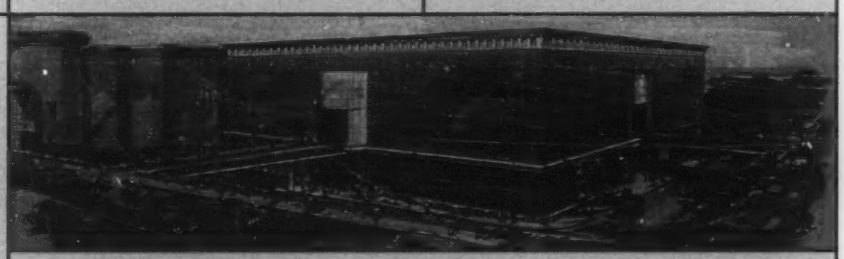
Spatz & Co.
104 Wilmot Road
Deerfield, IL 60015

Projects to be completed in 1990 include an $8 million shopping center in Neenah, Wis.; a $6 million center in Sioux Falls, S.D.; an $8 million center in LaJolla, Calif.; and a $4 million center in Montgomery, Ill. Activity was 70 percent to build and lease to others, 30 percent to own. *Wendy Spatz, VP, Des.; Barry Herring, Exec. VP, Oper.*

23 (23) **$32.44**

F. W. Woolworth Co.
233 Broadway
New York, NY 10297

Activity consisted of $16.9 million of new construction and $15.6 million of reconstruction at existing stores. All activity involved leasing from others in buildings built to company specifications. The major part of company's growth in the last several years has been in specialty stores. The company foresees rapid expansion of its recently developed Woolworth Express stores. *J.R. Geist, Asst. VP., Const.; K.L. Ledebuhr, Const. Dir.*



Neiman Marcus opened a new 130,000-sq.-ft. store at Tysons Corner, Va., in October. Photo: RTKL Associates

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INDUSTRIALS

MODERNIZATION SPURS 17 PERCENT CONSTRUCTION LEAP

Computer and electronic, food and beverage firms logged the largest increases, while spending by automotive firms flattened

1 (2) **$686.00**

AT&T Technologies
222 Mt. Airy Road
Basking Ridge, NJ 07920

AT&T currently has $700 million worth of projects under construction worldwide. Offices accounted for 50 percent of construction spending during calendar 1988, while research and manufacturing facilities collectively accounted for another 43 percent. Firm acquired Paradyne Corp., a data communications equipment manufacturer, earlier this year. *G.A. Decker, VP, RE; L.F. Garcia, Dir., Eng., Design & Const.*

2 (—) **$536.00**

IBM Corp.
Old Orchard Road
Armonk, NY 10504

Construction volume estimated by *BD&C*. IBM invested nearly $5 billion in land, buildings, machinery and equipment during calendar 1988. A total of $24 billion has been invested in facility upgrades over the past five years. Advances in technology have enabled the firm to consolidate manufacturing operations and reduce the number of its plants in the U.S. from 19 to 14. *John Serino, Dir., Design*

3 (1) **$448.00**

Argonaut AEC
General Motors Corp.
485 W. Milwaukee Ave.
P.O. Box 9027
Detroit, MI 48202

Nearly two-thirds of GM's construction expenditures were for manufacturing facilities during fiscal 1988. Firm has $342 million worth of construction currently under way in the U.S. Current projects include manufacturing and assembly facilities in Spring Hill, Tenn., and a multiuse office/lab facility in Flint, Mich. Firm performs no construction in house. *Robert A. Valentine, Dir.; John C. Davis, Mgr., Proj & Const. Admin.*

4 (3) **$400.00**

E.I. duPont
de Nemours & Co.
1007 Market St.
Wilmington, DE 19898

Construction volume estimated by *BD&C*. Firm's capital expenditures amounted to $4.2 billion in 1988, compared to $3.2 billion in 1987. Construction has begun on a new toxicology center near Wilmington for Du Pont's biomedical products division. Also under way is a manufacturing plant in Beaumont, Texas, for the firm's polymer products division. *Robert H. Miller, Dir., Proj. Eng.*

5 (15) **$300.00**

Boeing Co.
East Marginal Way South
Seattle, WA 98108

More than 50 percent of design and less than 50 percent of construction are performed in house. Boeing currently has more than 100 projects under way in the U.S. Firm's 1989 facilities expenditures were estimated to be in excess of $1 billion. That amount was expected to provide for new and existing program requirements, productivity improvement programs and R&D activities. *Frank Waterworth, Corp. Mgr., RE*

6 (4) **$300.00**

International Paper Co.
P.O. Box 160707
Mobile, AL 36616

Construction volume estimated by *BD&C*. International Paper's capital expenditures amounted to $645 million in 1988 and were expected to reach $900 million in 1989. Firm plans to allocate funds toward increasing production capacity and product quality, while reducing costs. Firm acquired composite-wood manufacturer Masonite Corp., a subsidiary of USG. *William Harris, Mgr., Eng.*

7 (34) **$260.00**

Minnesota Mining & Manufacturing Co.
P.O. Box 33331, Bldg 42-8
900 Bush Ave.
St. Paul, MN 55133

3M performs more than 50 percent of design and less than 50 percent of construction in house. Manufacturing facilities accounted for 60 percent of firm's 1988 expenditures, while offices and lab facilities accounted for 16 percent and 24 percent respectively. Firm has invested $3.2 billion in plant and equipment during the last five years, much of it for improvements in existing facilities. *Clair R. Larson, Exec. Dir., Fac. Eng. & RE*

8 (5) **$250.00**

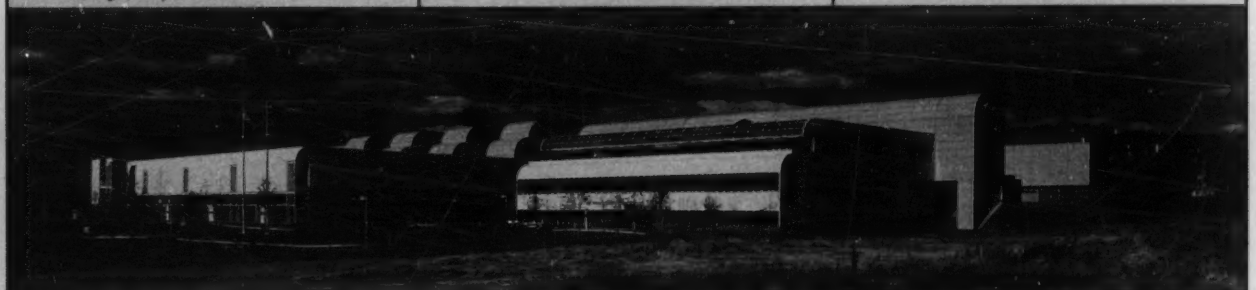
Bristol-Myers Squibb Co.
P.O. Box 4755
Syracuse, NY 13221-4755

Bristol-Myers merged with Squibb, a pharmaceutical company, in October 1989. Firm performs less than 50 percent of design and no construction in house. Its 1988 activities primarily involved new construction. High-tech facilities accounted for 80 percent of construction, while offices and research facilities comprised the balance. Current projects include three pharmaceutical plants in Puerto Rico. *Paul Lorenzo, VP, Central Eng.*

9 (6) **$250.00**

Hewlett-Packard Co.
3000 Hanover St.
Palo Alto, CA 94304

Firm currently has $800 million worth of construction under way worldwide, one-half of it in the U.S. Office facilities accounted for 60 percent of construction during calendar 1988, while high-tech facilities accounted for 30 percent. Firm performs no design or construction in house. *Thomas C. Lauhon, Mgr., RE & Plng.*



AT&T Technologies' $114 million Solid State Technology Center in Breinigsville, Pa., was completed last June.

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INDUSTRIALS

10 (7) **$244.00**
Philip Morris Companies Inc.
120 Park Ave.
New York, NY 10017

Construction volume estimated by *BD&C*. Philip Morris acquired Kraft Inc. in December 1988, making it the largest food company in the U.S. Firm's capital expenditures totaled $1 billion in 1988. Approximately 46 percent of that amount was used to expand and modernize food manufacturing and processing facilities. *Raymond Amico, Admin., Fac. Plng.*

11 (—) **$240.70**
Anheuser-Busch Cos. Inc.
One Busch Place
St. Louis, MO 63118

Construction volume estimated by *BD&C*. Capital expenditures for 1988 totaled $950.5 million, 75 percent of which was for beer-related operations. A new brewery was completed in Fort Collins, Colo., while another broke ground in Cartersville, Ga. Existing breweries are being modernized to improve productivity. *Aloys Litteken, VP, Corp. Eng.*

12 (—) **$220.00**
Chrysler Corp.
12000 Chrysler Drive
Highland Park, MI 48288

Construction volume estimated by *BD&C*. Chrysler is launching a five-year, $14 billion capital spending program to build new facilities, modernize existing ones and manufacture new products. Current projects include the $205 million modernization of its Newark, Del., assembly plant and construction of the $1 billion Chrysler Technology Center in Auburn Hills, Mich. *Mark Christie, Mgr., Fac. Proj. Mgmt.*

13 (13) **$209.00**
McDonnell Douglas Corp.
P.O. Box 516
St. Louis, MO 07065

Construction volume estimated by *BD&C*. During 1988, MDC invested $654 million in new facilities and equipment. Firm anticipated a modest increase in facilities and equipment investments during 1989. *Gerard J. Olsen, Dir., Prop. & Fac.*

14 (11) **$208.00**
General Electric Co.
1 River Road
Schenectady, NY 12345

Construction volume estimated by *BD&C*. GE's total expenditures for new plant and equipment during 1988 amounted to $2.3 billion, bringing its five-year total to $10.5 billion. Of that five-year total, 33 percent was spent to increase capacity, while 16 percent was spent to improve R&D facilities. In 1988, firm acquired Roper Corp. and Borg Warner's chemical businesses. *Tom Noonan, Mgr., Eng. & Const.*

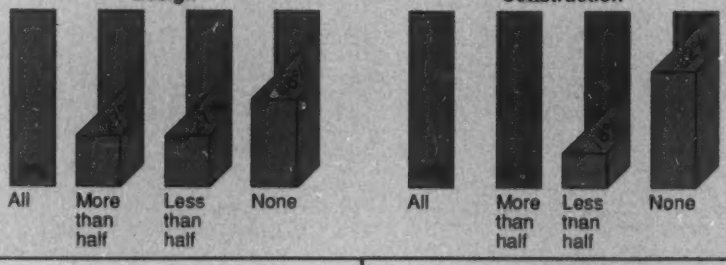
15 (10) **$207.00**
Rockwell International Corp.
2230 E. Imperial Highway
El Segundo, CA 90245

RI presently has $80 million worth of construction under way in the U.S. The firm is best-known for construction of high-tech aerospace facilities, the majority of which are located in California. More than 50 percent of design and less than 50 percent of construction are performed in house. Firm acquired SOMA Europe Transmissions in January 1988. *Earl Beauvais, Mgr., Aerospace Fac.*

16 (12) **$184.00**
PepsiCo Inc.
Anderson Hill Road
Purchase, NY 10577

Construction volume estimated by *BD&C*. A number of franchised domestic bottlers were acquired by PepsiCo in 1988. Firm reported $140.2 million in building additions worldwide for its soft drink, snack food and restaurant businesses and $209.5 million in additions to construction under way. Construction of a Frito-Lay manufacturing plant in Perry, Ga., was completed for PepsiCo's snack food division. *Gordon McPhaden, Dir., Eng.*

How much work do the Industrials do in house?



17 (8) **$161.00**
RJR Nabisco Inc.
1100 Reynolds Blvd.
Winston-Salem, NC 27105

Construction volume estimated by *BD&C*. RJR Nabisco was acquired by Kohlberg Kravis Roberts & Co. in 1989. In 1988, firm reported $78 million in building additions and leasehold improvements and $743 million in additions to construction under way. Firms's tobacco company recently completed the modernization of a cigarette manufacturing complex in Whitaker Park, N.C. *Joe Morgan, VP, Eng.*

18 (9) **$150.00**
Ford Motor Co.
Plant Eng. Office
Rm. 646, WHQ
P.O. Box 1899
Dearborn, MI 48121

Ford does no design or construction in house. Firm currently has $220 million worth of construction under way. Manufacturing facilities accounted for 85 percent of 1988 construction expenditures, while office, high-tech and laboratory facilities comprised the balance. Current projects include a $25 million assembly plant in Wayne, Mich. *John Casey, Dir., Plant Eng.*

19 (17) **$144.00**
United Technologies Corp.
UT Building
Hartford, CT 06101

Construction volume estimated by *BD&C*. UT owns 31.4 million square feet of plants in the U.S. and 12.6 million square feet in foreign countries. Nearly $200 million worth of building additions were reported for calendar 1988. UT and the merchant banking firm of Gibbons, Green, van Amerongen jointly acquired Sheller-Globe Corp., a supplier of steering wheels, instrument panels, consoles and other automotive components. *Kenneth Rankin, Mgr., Corp RE*

20 (33) **$130.00**
Xerox Corp.
P.O. Box 1600
Stamford, CT 06904

Xerox does no design or construction in house. The majority of its construction expenditures for calendar 1988 involved reconstruction. Offices accounted for 40 percent of expenditures, manufacturing facilities accounted for 30 percent and high-tech, laboratory and warehouse facilities each accounted for 10 percent. Current projects include manufacturing facilities in Webster, N.Y., Toronto and China. *Joseph M. Rooney, Mgr., Corp. & Int'l Plng.*

21 (14) **$112.00**
Monsanto Co.
800 N. Lindbergh Blvd.
St. Louis, MO 63167

Construction volume estimated by *BD&C*. In order to improve productivity, firm's chemical division has launched a "Plant of the '90s," program, which includes implementation of advanced computer-integrated manufacturing. The program has been implemented at plants in Pensacola, Fla.; Decatur, Ala.; and Greenwood, S.C. *Tom Rincker, Dir., Corp. RE*

22 (30) **$110.00**
Merck & Co. Inc.
P.O. Box 2000
Rahway, NJ 07065

Construction volume estimated by *BD&C*. Merck's capital expenditures for 1988 totaled $373 million. Firm has begun development of new corporate headquarters in Readington, N.J. The first of two new co-generation plants was completed in West Point, Pa., for the firm's pharmaceuticals division. A new safety assessment building in West Point was due for completion in 1989. *Larry Hughes, Sr. Dir., Corp. Eng.*

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23 (22) **$107.50**

Digital Equipment Corp.
555 Virginia Road
Concord, MA 01742

Digital does no design or construction in house. Firm currently has more than $300 million worth of construction under way worldwide. Office projects accounted for 60 percent of U.S. construction during last fiscal year, while laboratory and warehouse facilities accounted for 25 percent and 15 percent respectively. Current projects include a new Atlanta headquarters. *Edward B. Reiss, U.S. Property Dev. Mgr.*

24 (18) **$98.00**

Eastman Kodak Co.
343 State St.
Rochester, NY 14650

Construction volume estimated by *BD&C*. Kodak acquired Sterling Drug Inc. for $5.1 billion in 1988 and intends to modernize the pharmaceutical company's research facilities. Nearly $2 billion in capital improvements was invested during 1988. Firm opened a new R&D center in Yokohama, Japan, and a new technical center in Tokyo. *Duane Roland, Mgr., Const. Div.*

25 (36) **$92.40**

American Home Products
685 3rd Ave.
New York, NY 10017

Construction volume estimated by *BD&C*. Construction of a new Puerto Rico-based manufacturing facility was completed for firm's Whitehall Laboratories. Construction was begun on research, production and distribution facilities for firm's Fort Dodge Laboratories. A pharmaceutical manufacturing facility in Malvern, Pa., is currently being converted to a distribution/administration center. *Walter Fleming, Dir., RE*

26 (24) **$91.20**

Motorola Inc.
1303 E. Algonquin Road
Schaumburg, IL 60196

Construction volume estimated by *BD&C*. Plants will be expanded in Boynton Beach, Fla., and West Germany for Motorola's communications sector. For its semiconductor products sector, a new manufacturing and design center is under way in Hong Kong. Firm reported $165 million in building and building equipment additions. *Richard Frain, Mgr., Corp. Const. & RE*

27 (19) **$88.50**

Pillsbury Co.
200 South Sixth St.
Minneapolis, MN 55402

Construction volume estimated by *BD&C*. Pillsbury was acquired in January 1989 by Grand Metropolitan PLC, a London-based food, beverage and retailing company. Firm's capital expenditures amounted to $300 million for fiscal 1988. Food division's expenditures have been largely for plant modernizations, with the largest single project being the upgrade of a Haagen-Dazs plant in Woodbridge, N.J. *Paul Runice, Director, RE*

28 (27) **$88.30**

Raytheon Co.
141 Spring St.
Lexington, MA 02173

Construction volume estimated by *BD&C*. Additions to plant property and equipment totaled $354 million. Raytheon continued to modernize and expand its operating facilities in 1988. Its missile systems division completed a 385,000-sq.-ft. addition to engineering facilities in Tewksbury, Mass. A 500,000-sq.-ft. campus-style office and laboratory complex in Marlboro, Mass., was completed for its equipment division. *W. Carleton Bartow, Dir., RE & Plng.*

29 (—) **$84.60**

Aluminum Co. of America
1501 Alcoa Building
Pittsburgh, PA 15219

Construction volume estimated by *BD&C*. Alcoa's principal operations are organized in five groups: packaging systems, aerospace and industrial products, metals and chemicals, materials science, and international operations. Capital expenditures for calendar 1988 amounted to $866 million. Firm reported $153 million in building additions for same period. *Charles P. Fletcher, VP, Eng.*

30 (31) **$84.10**

Caterpillar Inc.
100 N.E. Adams St.
Peoria, IL 61629

Construction volume estimated by *BD&C*. More than 80 major modernization projects have been identified in facilities around the world. Of these, 95 percent were approved and implemented in 1988. Plant closings and consolidations were expected to reduce manufacturing space in the U.S. by 3 million square feet by late 1989. Other consolidations will reduce manufacturing space by another 3 million square feet within the next several years. *Gene Plotenhauer, Eng. Mgr.*

31 (46) **$82.70**

ConAgra Inc.
One Central Park Plaza
Omaha, NE 68102

Construction volume estimated by *BD&C*. ConAgra invested $163.5 million in additions to plant, property and equipment for fiscal year ending May 1989. Firm expects that figure to rise to $225 million this year. A state-of-the-art consumer product development facility in Omaha will be completed in 1990 as part of firm's new corporate headquarters. Firm acquired Pillsbury's grain merchandising division. *Robert J. White, VP, Corp. Plng.*

32 (20) **$78.50**

Johnson & Johnson
1 J&J Plaza
New Brunswick, NJ 08933

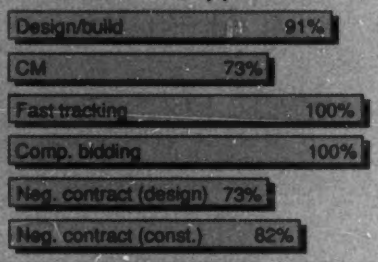
Construction volume estimated by *BD&C*. To strengthen its position in European pharmaceutical markets, J&J acquired the largest locally owned pharmaceutical company in Portugal. Construction of new facilities was completed in Cairo and Casablanca. Additions to buildings and building equipment were valued at $131 million, while additions to construction in progress totaled $114 million. *John R. Wiese, VP, Fac. Plng.*

33 (25) **$78.20**

Goodyear Tire & Rubber Co.
1144 E. Market St.
Akron, OH 44316

Construction volume estimated by *BD&C*. Firm projected $760 million in capital expenditures for calendar 1989. That sum will accommodate construction of a new radial auto tire plant in Napanee, Ontario, among other planned projects. A new composite technical center opened at the firm's reinforced plastics plant in Jackson, Ohio. The first-phase expansion of a chemical plant in Houston was to be completed this fall. *Tom Frey, Mgr., Tire Products and Projects*

How many of the industrials use these delivery processes?



34 (35) **$77.70**

Northrop Corp.
1840 Century Park East
Los Angeles, CA 90067

Construction volume estimated by *BD&C*. Northrop's capital expenditures for calendar 1988 amounted to $445 million. Firm's $130 million, 750,000-sq.-ft. Georgia Production Center in Perry, Ga., opened this year. *Owen Muller, Dir. RE*

35 (—) **$73.10**

Sara Lee Corp.
3 First National Plaza
Chicago, IL 60602-4260

Construction volume estimated by *BD&C*. A new state-of-the-art distribution center is under way in South Carolina for Sara Lee's foodservice operations. The corporation opened six new plants, began construction of an additional three plants and continued to modernize and expand existing facilities for its knit products business. Firm purchased consumer products division of Holland-based Akzo, among other acquisitions. *Thomas H. Gorden, Dir., RE*

36 (23) **$72.90**

Lockheed Corp.
4500 Park Granada Blvd.
Calabasas, CA 91399

Construction volume estimated by *BD&C*. Firm reported nearly $70 million in building additions and $13.4 million in construction additions for fiscal 1988. Firm signed an agreement with the Canadian government to design and build a $310 million international air terminal in Toronto. Lockheed will operate the terminal after it opens in 1990 and will own 27 percent of it. *Richard Hellman, Corp. Dir., RE*

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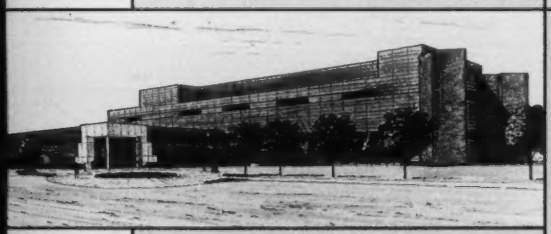
INDUSTRIALS

37 (41) **$71.70**
Baxter International Inc.
One Baxter Parkway
Deerfield, IL 60015

Construction volume estimated by *BD&C*. Baxter has improved its distribution efficiency through the application of new technologies.As a result, it expects to close some existing distribution centers, combine others and build new centers. Implementation was to begin in 1989 with construction of a new center in Charlotte, N.C. Recently completed projects include a $70 million R&D facility in Round Lake, Ill. *C.F. Cohlmeyer, VP, Fac. Eng.*

38 (49) **$68.10**
General Dynamics Corp.
Pierre Laclede Center
St. Louis, MO 63105

Construction volume estimated by *BD&C*. Capital expenditures during 1988 were larger than prior years and were made in conjunction with new programs to maintain and improve productivity, and to modernize and expand facilities. Firm's data systems division established a financial services center in Rancho California, Calif. *Bob Gallo, Corp. Dir., Fac.*



Construction of Eli Lilly & Co.'s $150 million biosynthetic insulin production plant will be completed in 1991.

39 (28) **$64.00**
Dow Chemical Co.
2030 Willard H. Dow Center
Midland, MI 48674

Construction volume estimated by *BD&C*. Dow's additions to plant, property and equipment amounted to $1.27 billion in 1988. Recent projects include a new $15.1 million analytical sciences laboratory in Midland, Mich., and a new $20 million pharmaceutical research complex in Ohio. Firm acquired Essex Chemical Corp. in 1988. *R.J. Kuerbitz, Mgr., RE*

40 (38) **$63.50**
W.R. Grace & Co.
1114 Avenue of the Americas
New York, NY 10036-7794

Construction volume estimated by *BD&C*. W.R. Grace reported $44.5 million in building additions during 1988 and construction in progress on $237 million of additions. Its specialty chemicals division is broadening the manufacturing capacity of plants in the U.S., Canada, Mexico, France and Japan. Firm's agricultural business opened a cloning research lab in DeForest, Wis. *Thomas Lawlor, Dir., Corp RE*

41 (39) **$62.00**
Westinghouse Electric Corp.
Gateway Center
Pittsburgh, PA 15222

Westinghouse currently has $95 million in construction under way in the U.S. Firm does no design or construction in house. Construction during calendar 1988 was almost evenly split among office, manufacturing, high-tech, laboratory and warehouse facilities. Reconstruction accounted for nearly one-third of construction spending. Firm acquired S&ME, an environmental services company with 37 U.S. offices. *D.J. Flanders, Dir., Corp. Const.*

42 (45) **$60.00**
Eli Lilly & Co.
Lilly Corporate Center
Indianapolis, IN 46285

Eli Lilly performs less than 50 percent of design and no construction in house. High-tech facilities accounted for 55 percent of construction during 1988, while offices and research facilities accounted for 25 percent and 20 percent respectively. Firm currently has $250 million worth of construction under way in the U.S. A $150 million insulin production facility in Indianapolis will be completed in spring 1991. *John G. Schumm, Dir., Const. Svcs.*

43 (16) **$59.00**
Georgia-Pacific Corp.
133 Peachtree St., N.E.
Atlanta, GA 30303

G-P acquired Brunswick Pulp & Paper Co. in August 1988. Capital spending in 1988 amounted to $711 million, two-thirds of which was used to complete major pulp and paper projects begun in earlier years. Recent projects for firm's industrial wood products division include the expansion of a particleboard plant in Gaylord, Mich., and construction of a particleboard converting facility in Eupora, Miss. *Richard M. George, Dir., RE*

44 (21) **$57.00**
Allied Signal Inc.
Columbia Road & Park Ave.
P.O. Box 4000R
Morristown, NJ 07960

Construction volume estimated by *BD&C*. Capital spending for 1989 amounted to $609 million. Firm initiated the expansion of a manufacturing plant in Hoosick Falls, N.Y., for its electronics segment. Its aerospace company's Bendix Wheels and Brakes unit started work on the $27 million expansion of its production and testing facilities in South Bend, Ind. *Ron Mallek, Dir., Corp. RE*

45 (—) **$56.40**
Champion International Corp.
One Champion Plaza
Stamford, CT 06921

Construction volume estimated by *BD&C*. Capital expenditures amounted to $626 million in 1988 and were expected to rise to $850 million in 1989. Current projects include the expansion of a warehouse in St. Louis for Nationwide Papers, Champion's wholly owned distributor of paper and paper products. Nationwide acquired a Chicago-based paper company in 1988, expanding its network of distribution centers to 28 cities in the U.S. *John Johnson, VP, Eng.*

46 (—) **$46.90**
Becton Dickinson and Co.
One Becton Drive
Franklin Lakes, N.J.
07417-1880

Construction volume estimated by *BD&C*. Firm's capital expenditures totaled $273 million. Current projects include construction of a hypodermic products manufacturing facility in Singapore — the company's largest and most technologically advanced plant to date — and a medical glove manufacturing facility in North Carolina. *D.P. Sposato, VP, Realty*

47 (—) **$45.90**
Coca-Cola Co.
One Coca-Cola Plaza
Atlanta, GA 30313

Construction volume estimated by *BD&C*. Firm's foods division acquired the citrus foodservice division of H.P. Hood Inc. in August 1988. Capital expenditures in 1988 amounted to $387 million and related principally to facility construction, capacity expansion and fixed assets of purchased companies. *William Buehler, VP, Eng.*

48 (47) **$45.50**
Procter & Gamble Co.
One Procter & Gamble Plaza
Cincinnati, OH 45202

Construction volume estimated by *BD&C*. P&G has acquired controlling interest in a Brazilian household cleaning and personal care products company. Firm owns and operates 50 manufacturing facilities in 24 states and 67 manufacturing facilities in 24 other countries. Worldwide capital expenditures totaled $1 billion. *D.S. Swanson, Sr. VP, Mgr. Eng.*

49 (44) **$39.60**
PPG Industries Inc.
One PPG Place
Pittsburgh, PA 15272

Construction volume estimated by *BD&C*. PPG reported $40.5 million in building additions and $76.9 million in additions to construction in progress for calendar 1988. For greater efficiency, firm is consolidating all of its North American product-based biomedical systems operations at a manufacturing facility under construction in Lenexa, Kan. A fiberglass facility is under construction in Taiwan. *Richard Marks, Mgr., RE*

50 (—) **$39.00**
Ralston Purina Co.
Checkerboard Square
St. Louis, MO 63164

Construction volume estimated by *BD&C*. Firm completed major expansions of cereal production facilities in Cincinnati and Lancaster, Ohio, and Battle Creek, Mich. Firm's protein technology business completed a multiphased expansion program of three soy protein manufacturing plants, while its Continental Baking Co. purchased a state-of-the-art bakery in Philadelphia. *Glenn Mosier, VP, Dir., Corp. Eng.*

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MULTIFAMILY DEVELOPERS

CONSTRUCTION SLOWS FOR THE MULTIFAMILY DEVELOPERS

Average spending fell to $122.7 million of put-in-place construction from last year's average of $126.3 million

1 (1) **$807.50**

Trammell Crow Residential Co.
3500 Trammell Crow Center
2001 Ross Ave.
Dallas, TX 75201

Multifamily housing accounted for 95 percent of activity, involving more than 12,000 residential units. Firm forms multiple partnerships to handle general contracting functions for approximately 30 residential divisions throughout the U.S. and does no design in house. The company has developments in more than 80 cities. *J. Ronald Terwilliger, Managing Ptnr.*

***Picerne Properties opened** Paradise Bay Club, a 288-unit apartment complex in Las Vegas, Nev.* Photo: Ken Gray

2 (3) **$620.00**

Pacific Coast Development Co.
629 Camino de Los Mares
San Clemente, CA 92672

This privately owned firm builds on the West Coast and in the Sun Belt. Firm plans to expand into Mexico, Southern Europe, Japan and Korea. Activity includes 67 percent multifamily as well as 16 percent offices, 12 percent retail and 5 percent hotel/motel. More than 50 percent of design and construction done in house. *Robert Thomas, Chief Arch.*

5 (8) **$212.00**

A.G. Spanos Construction Inc.
1341 Robin Hood Drive
Stockton, CA 95207

Activity was 100 percent multifamily housing in the West and Southwest. During 1988, more than 3,000 units were built. All construction and less than 50 percent of design are done in house. Company also retains design/build services from outside firms. Firm builds and sells 80 percent of what it develops and leases 20 percent. *Dean Spanos, Pres.; Michael Spanos, Exec. VP*

8 (6) **$175.31**

U.S. Home Corp.
P.O. Box 2863
Houston, TX 77252

Volume does not include the 68 percent of firm's activity that involves single-family detached houses. All development is sold. The publicly traded company has more than 200 residential subdivisions in 13 states. *Robert J. Strudler, Chmn., CEO; Isaac Heimbindek, Pres., COO; John Johnson, VP, Const.*

3 (5) **$230.00**

Robertson Homes
6653 Embarcadero Drive
Stockton, CA 95209

Activity involved 3,070 residential units. Robertson Design and Robertson Construction, both in Stockton, Calif., are subsidiaries. Firm develops in California and has expanded to Maryland and Washington, D.C. Projects include Sun Pointe, a 330-unit apartment complex in Fremont, Calif.; Sierra Hills, a 300-unit complex in Corona, Calif.; and Harbour Gates in Annapolis, Md. *Chris Shrimpl, Pres.; David Fisher, VP*

6 (—) **$205.45**

Pulte Home Corp.
33 Bloomfield Parkway
Bloomfield Hills, MI 48013

Volume shown excludes single-family detached homes, which were 70 percent of company's activity. Publicly traded firm builds in Florida, Texas and California. All development was sold. No construction, but more than 50 percent of design is done in house. Competitive bidding is used for construction. *James Grosfeld, CEO; Robert Burgess, Pres.*

9 (—) **$158.25**

Fogelman Properties
5400 Poplar
Memphis, TN 38119

Volume was estimated by *BD&C*. Firm is new to the listing this year and is known for multifamily residential developments in the Midwest and Southeast. Nonresidential building activity included shopping centers, retail stores, hotel/motel, restaurants and recreational buildings. Typically all construction and most design are done in house. *David Jacobs, Exec. VP*

4 (7) **$217.74**

Hovnanian Enterprises Inc.
10 Highway 35
P.O. Box 500
Red Bank, NJ 07701

Firm has three subsidiaries located in New Jersey, Florida and New York. No construction and less than 50 percent of design are done in house. In the fiscal year that ended in February 1989, the firm built 3,126 residential units. Half Moon Bay, a multifamily development in Palm Beach County, Fla., is a current project. *Ara K. Hovnanian, Pres.*

7 (—) **$180.00**

Oxford Development Corp.
7316 Wisconsin Ave.
Bethesda, MD 20814

Volume estimated by *BD&C*. Firm is new to the listing this year. Construction and design are typically done in house for this privately owned company. Firm develops retirement communities throughout the country. *Leo Zickler, Pres.*

10 (11) **$94.73**

Picerne Properties
75 Lambert Lind Highway
Warwick, RI 02886

Firm has three construction subsidiaries located in Warwick, R.I., Winter Park, Fla., and Phoenix, Ariz. Most activity was in Florida and Nevada. The company is expanding to the Pacific Northwest in the coming year. Activity was 80 percent multifamily residential buildings and 10 percent warehouse/distribution centers. Recent projects include two apartment complexes, Paradise Bay Club II in Las Vegas and Flamingo Key in Sunrise, Fla. *Ron Picerne, Pres.*

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MULTIFAMILY DEVELOPERS

11 (13) **$85.09**
Weingarten Siegel Group Inc.
198 Route 9
Manalapan, NJ 07726

Volume estimated by *BD&C*. This privately owned firm is best-known for multifamily and single-family homes in Central New Jersey, Florida and California. Typically, firm does no construction and less than 50 percent of design in house. *Allen Weingarten, Pres.; Ned Siegel, VP; Marc Siegel, VP*

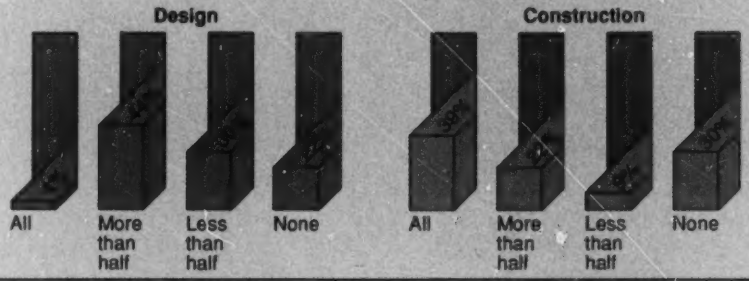
14 (12) **$76.69**
Oriole Homes Corp.
1151 Northwest 24th St.
Pompano Beach, FL 33064-2299

Company's activity involved 1,092 units in projects located in Broward and Palm Beach counties in Florida. Volume shown excludes single-family detached houses, which accounted for 23 percent of firm's activity. Recent Florida projects include Cypress Bend in Pompano Beach, Island Lakes in Boca Raton and Huntington Lakes, Huntington Pointe and Huntington Towers in Delray Beach. *Mark A. Levy, Pres.; Chris A. Feller, VP Const.*

17 (—) **$68.00**
Amir Development Co.
8730 Wilshire Blvd., Suite 300
Beverly Hills, CA 90211

This privately owned firm is new to the listing this year. It performs all construction but no design in house. Half of activity was offices and half multifamily residential buildings. Residential activity included apartments, all of which were in Los Angeles County. *Paul Amir, CEO*

How much work do the Multifamily Developers do in house?



18 (22) **$61.16**
National Corp. for Housing Partnership
1225 Eye Street, N.W.
Washington, D.C. 20005

Volume excludes the 30 percent of activity that involved single-family detached houses. Offices accounted for another 10 percent of activity. Firm specializes in multifamily developments throughout the U.S., 70 percent of which are leased and 30 percent which are sold. Less than 50 percent of design and no construction are done in house. *Marshall Edwards, Exec. VP*

12 (9) **$83.33**
Cenvill Development Corp.
1926 10th Ave. North
Lake Worth, FL 33461

Volume for this publicly traded firm was estimated by *BD&C*. All units built were sold. Firm develops adult country club communities in Southeast Florida. Among company's subsidiaries are Cenvill Illinois Corp. and Cenvill Miami Beach Development Corp. Typically, more than half of design is done in house. *Richard Siemans, Pres.*

15 (14) **$74.00**
Forest City Residential Development
10800 Brookpark Road
Cleveland, OH 44130

Company's activity consisted entirely of multifamily residential buildings. Firm's activity is centered on the East Coast. Current projects include a 333-unit congregate care facility in Chevy Chase, Md., and Queenswood, two apartment buildings in Corona, N.Y., which are scheduled for completion early in 1990. *Ron Ratner, Pres.; Ken Yarus, VP-Arch. and Eng.; Mel Mingle, Gen. Mgr.-Const.*

19 (16) **$35.10**
Edward Rose Building Enterprises
P.O. Box 937
Southfield, MI 48037

Activity involved 1,400 apartment units in Michigan, Illinois, Indiana, Wisconsin, Ohio, Missouri, Tennessee, Virginia and North and South Carolina. Volume excludes the 10 percent of firm's activity that involved single-family houses. Building for lease accounted for 90 percent of activity and building for sale accounted for 10 percent. Firm currently is working on 29 low-rise apartment projects in nine states. *Sheldon Rose, CEO*

13 (19) **$80.67**
Coscan Development Corp.
2 First Canadian Place #2200
Toronto, Ontario M5X 1H9 Canada

Volume does not include the 50 percent of company's activity that involves construction of single-family detached houses. In the U.S., company is active in California, Florida and suburban Washington, D.C. Current projects include Waterways, a luxury high-rise building with a marina in North Miami, Fla., and approximately 400 housing units in Newport Beach, San Francisco and San Diego, Calif. *Ross Cullingworth, Pres.*

16 (—) **$69.00**
Foreston Development Co.
5 Dakota Drive, 3rd Floor
Lake Success, NY 11042

Firm is new to the listing this year and its volume was estimated by *BD&C*. The company is a subsidiary of the Foreston Group of Lake Success, N.Y., and builds multifamily housing buildings, apartments and single-family housing for sale and for its own investment. Company is active in Virginia, New York and New Jersey. *Jack Heller, Pres.*

20 (—) **$34.40**
Robert Randall Co.
9500 S.W. Barbur Blvd. Suite 300
Portland, OR 97219

Company's activity involved multifamily residential buildings exclusively. All were built for lease. All design and construction are done in house. Firm is active in California, Oregon and Washington. Recent projects include the Lighthouse, a 180-unit apartment complex in Vallejo, Calif., and Zinfandel Village, a 364-unit apartment complex in Rancho Cordova, Calif. *D.L. Kersten, VP Projects Admin.; Bob Hansen, Design Mgr.*

Zinfandel Village, a 364-unit apartment complex in Rancho Cordova, Calif., is a development of Robert Randall Co.

21 (18) **$22.26**
RGC
20 Corporate Plaza
Newport Beach, CA 92660

Firm previously known as RecreActions. Volume excludes single-family detached houses, which were 30 percent of activity. Specialty is single-family attached housing in Southern California. More than 50 percent of design is done in house. Outside design/build firms are also retained. Corte Bella, a 260-unit townhouse project, is currently under construction in Irvine, Calif. *E. James Murar, Chmn.; Harold Lynch Jr., Pres.*

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22 (—) **$18.25**

Jack Parker Corp.
104-70 Queens Blvd.
Forest Hills, NY 11375

Company's activity consisted entirely of multifamily residential buildings, all of which were built for sale. No design but all construction done in house. Firm is active in New York and New Jersey. Eagle Ridge, a $65 million townhouse development in West Orange, N.J., will be completed in 1991. *Jack Parker, Chmn.; Adam Glick, Pres.; Martin P. Schwartz, Exec. VP*

23 (24) **$16.40**

Crowell Industries
1425 W. Foothill Blvd.
Suite 300
Upland, CA 91786

Volume does not include the 60 percent of company's activity that involved single-family detached houses. Multifamily buildings represented 30 percent of activity, retail five percent and offices five percent. Work for this private firm is focused in California and includes projects currently under way in Rancho and Palm Desert. *Harry Crowell, Pres.*

Toll Brothers' Makefield Glen is a condominium development in Bucks County, Pa.

24 (26) **$14.66**

Segal Associates Inc.
111 Coltidge Ave.
Bellmawr, NJ 08031

Volume excludes 60 percent of firm's activity that involved single-family detached housing. Firm is active in southern N.J. Less than one-half of construction and design is done in house. Projects were primarily built for sale. Timber Glen, a 350-unit condominium development in Hamilton Township, N.J., is a current project. *Donald Segal, Pres.; John E. Segal, VP*

27 (27) **$8.00**

North Cranbrook Associates
26400 Lahser, Suite 104
Southfield, MI 48034

Firm is active in Macomb, Wayne and Oakland counties in Michigan, where it builds apartment developments. Activity was 90 percent multifamily residential facilities and 10 percent manufacturing and industrial facilities. Firm has two subsidiaries, Cranbrook Wayne Corp. and Cranbrook Madison Corp., both in Southfield. No design but all construction done in house. *Leo Sklar, Partner; Marvin Rubin, Pres.*

28 (28) **$8.00**

Gene B. Glick Co. Inc.
8330 Woodfield Crossing Blvd.
P.O. Box 40177
Indianapolis, IN 46240

Privately owned firm does all construction in house. Activity was entirely multifamily residential structures, which were leased out. Company builds low-income and multifamily rental housing in Michigan, Kentucky, Ohio, Indiana, Illinois, Virginia, New York, Florida and Pennsylvania. Woodbridge Apartments of Fort Wayne II, a 300-unit apartment complex in Fort Wayne, Ind., was recently completed. *Max Thurston, Exec. VP*

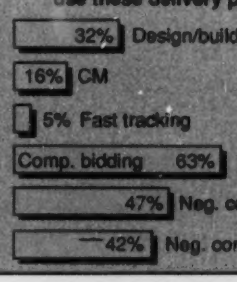
25 (—) **$14.25**

Toll Brothers Inc.
3103 Philmont Ave.
Huntingdon Valley, PA 19006

This publicly traded firm is new to the listing this year. Volume excludes the 85 percent of activity that involved single-family detached houses. More than 50 percent of design, but no construction done in house. Company is active in Pennsylvania, New Jersey, Delaware, Massasschuetts and Maryland. All units were built for sale. *Robert I. Toll, Chmn., CEO; Bruce E. Toll, Pres., COO*

A number of Multifamily Developers reported more emphasis on luxury units

How many of the Multifamily Developers use these delivery processes?



29 (20) **$4.00**

Empire West Cos. Inc.
5656 E. Grant Road/
Tucson, AZ 86712

Firm is known for its development of apartment communities in Arizona, New Mexico, Texas, Nevada and Utah. The company anticipates expanding into California, Florida and the Midwest and Northeast. Activity was exclusively multifamily residential structures, but firm also develops retail strip centers. More than one-half of design and construction is done in house, but negotiated contracts are also used for both. *Cary Marmis, Pres., Chmn. of Bd.*

26 (30) **$9.00**

D & S Development Corp.
3350 Ocean Park Blvd.
Suite 106
Santa Monica, CA 90405

Volume excludes the 75 percent of activity that involved single-family detached houses. Firm specializes in multifamily rentals, planned-unit developments and condominiums in southern and central California and Reno, Nev. All construction is done in house and negotiated contracts are used for design. *Byron Lasky, Pres.; Guy Tobin, Exec. VP*

30 (23) **$3.45**

General Development Co.
1111 S. Bayshore Drive
Miami, FL 33131

Volume excludes the 95 percent of firm's activity that involved single-family detached houses. Firm is active in Florida and sold all that was built. More than one-half of design is done in house; no construction is done in house. Firm also uses negotiated contracts for design and construction. *Alfredo Walling, Asst. VP*

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HOTELS/MOTELS/ RESTAURANTS

H/M/R FIRMS PLACE $4.2 BILLION IN CONSTRUCTION

After three years of rising construction levels, developers report a slight decrease

1 (1) **$954.30**

Marriott Corp.
One Marriott Drive
Washington, DC 20058

More than $900 million of the construction volume represents activities in new construction of hotel, restaurant and foodservice facilities. More than 45 new hotel properties were opened in 1989 and 60 are anticipated to open in 1990. Less than 50 percent of design but more than 50 percent of construction is performed in house. *Jack Graves, Exec. VP, Arch. & Const.; Bob Dacey, Sr. VP, Design; Jim Greenwald, Sr. VP, Const.*

2 (3) **$475.44**

McDonald's Corp.
Kroc Drive
Oak Brook, IL 60521

Approximately $340 million was allocated for construction of 386 new units and $135 million was used for the renovation of 2,913 units. The construction volume for 1989 is anticipated to increase by $70 million. McDonald's performs no construction and more than 50 percent of design in house. Construction contracts are both competitively bid and negotiated. *Charles W. Broadbent, VP Arch. & Const.; Tony Torchia, Const. Analyst*

3 (11) **$350.00**

Hilton Hotels Corp.
9336 Civic Center Drive
Beverly Hills, CA 90209

This publicly traded firm peforms more than 50 percent of design and less than 50 percent of construction in house. Construction volume includes annual capital developments of $20 million at the Waldorf Hilton, New York City, and $18 million at the Las Vegas Hilton. Expansion programs are under way at the Flamingo Hiltons in Las Vegas and Reno. *James L Philon, Sr. VP, RE & Const.; Robly T. Barber, Sr. VP, Devel. & Acquisition*

4 (4) **$290.36**

Holiday Corp.
3645 Lamar Ave.
Memphis, TN 38195

During 1988, the Hotel Services Division began construction of extended-stay-oriented Homewood Suites. Construction volume is anticipated to increase more than 200 percent during 1989. The firm performs less than 50 percent of design and no construction in house. Holiday Corp. was recently purchased by Britain's Bass PLC. *G.D. Livaudais Jr., Dir., Corp. Const.; Jim Howell, Dir., Embassy Const.; Henry Carls, Dir., Hampton Const.*

5 (18) **$183.00**

General Mills Restaurants Inc.
6770 Lake Ellenor Drive
Orlando, FL 32859

Construction volume was estimated by *BD&C*. The firm performs less than 50 percent of design and no construction in house. Red Lobster added 42 new units in the fiscal year ending May 1989. The Olive Garden restaurants added 53 new units. In 1990 fiscal year, the Olive Garden plans to add 50 new units and Red Lobster plans to add 25 new units. *Joe R. Lee, Pres.; Richard D. Helterman, Sr. VP, Devel.*

6 (4) **$181.00**

Hemmeter Development Corp.
2255 Kuhio Ave.
Honolulu, HI 96815

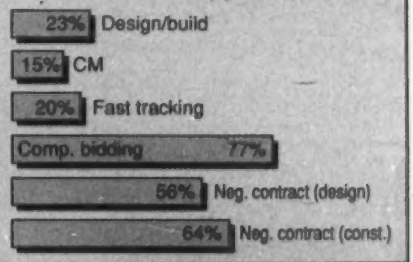
Construction volume was estimated by *BD&C*. The firm currently has projects under way in Arizona, California and Florida. The firm's design subsidiary, Lawton & Umemura, Honolulu, performs more than one-half of the firm's design in house. Building methods include fast-track scheduling and negotiated contracts for design and construction. *Christopher Hemmeter, CEO; Richard Regals, Mgr., Plng. & Devel.*

7 (31) **$179.00**

Golden Nugget Inc.
4315 S. Industrial Road
Las Vegas, NV 89103

The firm's construction volume surged with the development of new hotel/casino operations in Las Vegas and Laughlin, Nev. Atlandia Design, the firm's construction management and contract furnishings subsidiary, performs more than 50 percent of design in house. The firm recently embarked on the construction management of a golf course facility. *Kenneth R. Wynn, Pres.; Peter T. Smith, Exec. VP; Joel D. Bergman, Sr. VP.*

How many of the H/M/Rs use these delivery processes?



8 (6) **$159.00**

Cardinal Industries
2040 S. Hamilton Road
Columbus, OH 43232

Construction volume was estimated by *BD&C*. Construction volume represents only hotel/motel development, but the privately owned firm is also involved in multifamily, single-family, retirement and student housing. All design and more than 50 percent of construction is done in house. Competitive bidding is used to award construction contracts. *Paul Jarvis, CEO; Monica Subtirelu, Dir., Design Svcs.*

In 1988 26 Seafood Broiler restaurants were acquired and converted to Red Lobster units by General Mills Restaurants.

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HOTELS/MOTELS/ RESTAURANTS

9 (9) **$150.00**

Sheraton Corp.
60 State St.
Boston, MA 02109

Construction volume was estimated by *BD&C*. Construction of all-suite hotels introduced in 1987 continues, as do the renovations of existing properties. This subsidiary of the publicly traded ITT, New York City, decreased the total number of its hotels from 479 in 1987 to 465 in 1988, but increased its total number of rooms by 1,495 over the same period. *J. Michael Laughran, Dir., Design*

10 (36) **$140.00**

Days Inn of America Inc.
2751 Buford Highway
Atlanta, GA 30324

Construction volume was estimated by *BD&C*. The firm, a subsidiary of Reliance Capital Group, Atlanta, introduced Budget Daystop in 1988. Last year its total number of hotels increased by 185 and its total number of rooms reached 100,000. Approximately 75 new properties, each priced at about $2.5 million, are projected to open next year. No design or construction is performed in house. *Mike Leven, Pres.; Don Mathis, VP, Product Devel.*

***Sheraton Corp. began construction** on the 1,215-room Sheraton Chicago Hotel & Towers, which will contain more than 70,000 square feet of meeting space.*

11 (7) **$138.00**

Burger King Corp.
P.O. Box 520783
Miami, FL 33152

Construction volume was estimated by *BD&C*. The firm, a subsidiary of Pillsbury Co., Minneapolis, added approximately 350 new units during 1988 and is nearing 6,000 total units. More than 50 percent of design is done in house. Construction, which is not performed in house, is competitively bid. *Paul R. Gershen, VP, Arch. & Const.*

12 (12) **$110.00**

PepsiCo
Anderson Hill Road
Purchase, NY 10577

Construction volume was estimated by *BD&C*. Firm's restaurant division operates Pizza Hut, Kentucky Fried Chicken and Taco Bell. Total number of U.S. units is approximately 13,400. The firm continually upgrades its units, as exemplified by a 1988 program to make Pizza Hut carry-out areas more attractive and convenient. *D. Wayne Calloway, CEO; Donovan R. Christopherson, Sr. VP, Restaurant Devel.*

13 (16) **$90.00**

Hyatt Development Corp.
200 W. Madison St.
Chicago, IL 60606

This privately owned firm is constructing 317-room hotels in suburban Chicago and metropolitan Washington, D.C., and an 800-room hotel near San Francisco Int'l. Airport. No construction or design is performed in house. Building methods include fast-track scheduling, competitive bidding for construction and negotiated contracts for design and construction. *Michael J. Dickens, Sr. VP, Plng. & Const.; John R. Ryden, Sr. Proj. Dir.*

***The Ramada Renaissance-Techworld,** an 800-room hotel in Washington, D.C., was recently completed. Ramada Inc. has opened six other hotels in the last two years.*

14 (5) **$90.00**

Ramada Inc.
P.O. Box 29004
Phoenix, AZ 85038

The sale of the firm to New World Development Co., Hong Kong, is pending. Construction volume was generated from the creation of 10 new properties, including two Ramada Renaissance facilities. No construction or design is performed in house. Building methods include design/build from an outside firm and competitve bidding for construction. *John Kelly, VP, Design & Const.; Marshall Reynolds, Sr. VP, Devel.*

15 (13) **$83.90**

Westin Hotels & Resorts
The Westin Building
2001 6th Ave.
Seattle, WA 98121

The firm, owned by Aoki Corp., reorganized and formed a separate development and real estate division to help assist with growth plans. Expansions are planned in Asia, South America and Europe. Twenty-five percent of projects are owned and occupied by Westin. Seventy-five percent are built and owned by others, but are built to Westin's specifications. *Steven R. Schnoor, VP, Proj. Mgmt.*

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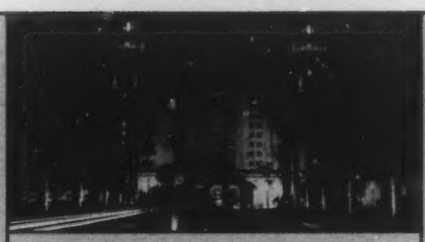
16 (15) **$62.00**

Interstate Hotels Inc.
680 Anderson Drive
Pittsburgh, PA 15220

The firm is expanding into takeovers of distressed properties and converting them to Interstate standards. These activities are anticipated to increase the reconstruction volume from $8 million in 1988 to $33 million in 1989. New construction expenditures are expected to remain at approximately $50 million. No design or construction is performed in house. Design/build and construction management are among the building methods used. *John Hardy, VP, Arch. & Const.*



The recently completed Ritz-Carlton in Naples, Fla., is one of three hotels that the chain plans for Florida.

25 (10) **$37.00**

Hardee's Food Systems Inc.
1233 N. Church St.
Rocky Mount, NC 27802

Construction volume was estimated by *BD&C*. The firm is a subsidiary of Imasco, Montreal. More than 50 percent of design is performed in house. No construction is done in house. The firm builds and owns 97 percent of its restaurants and sells the remainder. *Jim Moore, VP, Design & Const.; Charles Bradley, Arch.*

17 (17) **$58.00**

The Riese Organization
162 W. 34th St.
New York, NY 10001

Construction volume was estimated by *BD&C*. The firm is a diverse restaurant franchisee that develops T.G.I Friday's, Houlihans and Pizza Huts. More than 50 percent of design and construction are performed in house. Building methods include fast track scheduling, competitive bidding for construction and negotiated contracts for design and construction. *Irving Riese, Pres.; Vincent McCann, Exec. VP.*

21 (23) **$43.00**

La Quinta Motor Inns Inc.
P.O. Box 790783
San Antonio, TX 78279

Construction volume was estimated by *BD&C*. The firm develops, owns and manages properties. It acquired and converted nine properties in 1988. Total number of units increased from 191 in 1987 to 203 in 1988. More than 50 percent of design is performed in house. Construction contracts are awarded through competitive bidding. *Charles A. Ganga, VP, Design & Const.*

26 (30) **$35.00**

S & A Restaurant Corp.
12404 Park Central Drive
Dallas, TX 75251

The firm recently completed a leveraged buyout from its parent firm, Pillsbury Co. The construction volume reflects $20 million in new development and $15 million in reconstruction of restaurants such as Bennigan's and Key West. Due to the acquisition, the firm anticipates no new development in 1989. However, the amount of reconstruction should remain the same. All design and less than 50 percent of construction are done in house. *Roy Study, VP, Devel.*

18 (32) **$53.00**

Caesars World Inc.
1801 Century Park East
Los Angeles, CA 90067

Construction volume was estimated by *BD&C*. This publicly traded firm performs no design and less than 50 percent of construction in house. Building methods include design/build and construction management from outside firms. Both competitive bidding and negotiated contracts are used to award construction contracts. Negotiated contracts are used to retain design services. *Roger Lee, Sr. VP*

22 (20) **$41.60**

Super 8 Motels Inc.
1910 8th Ave., N.E.
Aberdeen, SD 57401

Construction volume was estimated by *BD&C*. All construction is done in house by Super 8 Builders Inc. Less than 50 percent of design is done in house. The firm began construction of seven new properties in Canada in 1989. The firm's construction volume is derived from facilities it builds and owns (30 percent) and from properties it builds for other owners (70 percent). *Anton Edder, VP, Arch. Svcs.; John J. Kokales, Arch. Systems Proj. Admin.*

27 (28) **$30.00**

Motel 6 L.P.
14651 Dallas Parkway
Dallas, TX 75240

The firm builds and owns all of its properties. More than 50 percent of design is performed in house, while no construction is done in house. The construction volume represents new development of more than 1,000 rooms in seven new motels. Recent projects are located in Palm Springs, Calif.; Memphis, Tenn.; and Orlando, Fla. *Russel Miller, VP, Devel.; Austin Kerin, Dir., Const.; Henry Sosain, Dir., Arch. & Const.*

19 (19) **$50.00**

The Pickett Companies
655 Metro Place North
Dublin, OH 43017

This privately owned firm sells 64 percent of its projects and leases the remainder. A developer of suite hotels, the firm increased its total number of rooms by 800 in 1988, planned to open two new hotels in 1989 and has begun construction on two others. U.S. properties are located in the South and Midwest. Less than 50 percent of design and no construction are performed in house. *James Pickett, Chmn.*

23 (22) **$40.00**

Ritz Carlton Hotel Co.
3414 Peachtree Road, N.E.
Atlanta, GA 30326

A $30 million, 400-room hotel in Los Angeles and a $60 million dollar, 500-room hotel in Hawaii are scheduled to open in 1990. Contracts for design and construction are negotiated. The firm anticipates a 50 percent increase in construction volume in 1989. One-half of the construction volume is for projects the firm builds and owns, while the other half is for projects the firm builds for franchisees. *Larry Kessinger, Exec. VP, Const.*

28 (24) **$29.00**

Red Roof Inns Inc.
4355 Davidson Road
Hilliard, OH 43026

Construction volume estimated by *BD&C*. The firm built 17 new properties in 1988. All construction is performed by J.R. Trueman & Associates, Hilliard, Ohio. Less than 50 percent of design is done in house. Recent projects were completed in Secaucus, N.J., and Northbrook, Ill. The firm anticipates adding 15 properties in 1989. *Drew Berlin, VP*

20 (21) **$49.90**

Host International Inc.
One Marriott Drive,
Dept. 928.5
Washington, DC 20058

The firm operates food, beverage and retail units located in airports. Construction volume was generated from new and reconstruction activities in 166 units. The firm expects new and renovation activity in 125 units to collectively total $30 million in 1989. No design and less than 50 percent of construction is done in house. The firm's parent company is Marriott Corp. *Charles W. Sampson, VP, Design & Const.*

24 (35) **$39.00**

AIRCOA Companies
4600 S. Ulster
Denver, CO 80237

The firm develops and manages hotels. The firm was recently purchased by Hong Kong's Regal Hotels International, resulting in the formation of Regal Aircoa Companies. Less than 50 percent of design and no construction are performed in house. Design/build and construction management from outside firms are among the building methods utilized. *Eldon Zerr, Dir., Eng. & Energy Mgmt.*

29 (26) **$26.00**

UsaCafes L.P.
8080 N. Central Highway
Dallas, TX 75206

The firm owns and franchises Bonanza Family Restaurants. The construction volume represents $22 million spent on new development and $4 million on reconstruction. Expansion is occurring in the Southeast and West. Less than 50 percent of design is performed in house and no construction is done in house. *Perry J. Brush, VP, Design & Const.; Karen Gaither, Mgr., Restaurant Design; Charles Connour, Mgr., Const.*

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HOTELS/MOTELS/RESTAURANTS

30 (38) **$23.50**
A.C.E. Companies
8300 Dunwoody Place
Atlanta, GA 30350

Construction volume was estimated by *BD&C*. The firm builds Arby's restaurants. Approximately $3.5 million of the construction volume was generated from reconstruction projects. The firm performs less than 50 percent of design and no construction in house. Competitive bidding is used to award construction contracts. *George Nadvit, Sr. VP, Oper.*

34 (39) **$20.90**
Bob Evans Farms
3776 S. High St.
Columbus, OH 43207

Almost $20 million worth of construction was generated by the development of 27 new units in the Midwest, Southwest and East Coast. The firm anticipates that 20 new units will be developed in 1989. All design is done in house and no construction is performed in house. *Howard Berrey, Sr. VP, Devel. Dir.; Pete Steininger, Asst. VP, Const. Dir.*

37 (33) **$12.00**
Golden Corral
Development Corp.
5157 Glenwood Ave.
Raleigh, NC 27612

The construction volume was generated from 12 new developments and 12 reconstruction projects. Recent projects include a 5,000-sq.-ft. unit in Clewiston, Fla., and a 10,000-sq.-ft. unit in Victoria, Texas. Less than 50 percent of design and all construction is performed in house. Design is awarded through negotiated contracts. *A.L. Clement, Mgr. Const.*

31 (29) **$22.30**
Chili's Inc.
6820 LBJ Freeway
Dallas, TX 75240

The publicly traded firm constructed new, 6,000-sq.-ft. restaurant units in 15 states in 1988. The firm purchased six Grady's Goodtimes restaurants and has plans for rapid expansion of this chain. Construction volume was generated by the development of 29 new units and reconstruction of 100 units. All design and less than 50 percent of construction are done in house. *Ed Palms, Sr. VP, Const.; Richard McCaffrey, Dir., Arch.*

Firms in the top seven positions this year show a $433 million decline in construction from that reported by the firms holding those positions one year ago

32 (37) **$22.00**
Days of the West Inc.
11020 Whiterock Road
Rancho Cordova, CA 95670

Construction volume was estimated by *BD&C*. The firm is one of Days Inns' largest franchisees and is owned by Tollman-Hundley Hotels, a New York City hotel management firm. Construction volume was generated from the development of five new properties and renovation of two existing properties. *Arthur Hansen, Exec. VP*

35 (40) **$19.00**
A & W Restaurants Inc.
17197 N. Laurel Park Drive
Livonia, MI 48152

The firm almost doubled its construction volume from 1987 with the conversion of 80 Carrousel Foods to A & W units. This privately owned firm performs more than 50 percent of design in house. No construction is done in house. Construction contracts are awarded through competitive bidding. The firm anticipates maintaining the same level of construction during 1989. *Michael Smith, VP, Const./Devel.*

38 (—) **$12.00**
Piccadilly Cafeteria's Inc.
P.O. Box 2467
Baton Rouge, LA 70821

The firm is a new addition to the list this year. All design is performed in house. The firm builds, owns and occupies 50 percent of the cafeterias it develops and leases the remainder. All construction is performed by a subsidiary, National Construction Co. *T.C. von Dameck, Exec. VP, Arch.*

33 (34) **$21.50**
Jerrico Inc.
P.O. Box 11988
Lexington, KY 40579

Construction volume was estimated by *BD&C*. Construction volume represents development of approximately 50 new Long John Silver's restaurants and reconstruction of about another 100 units. More than 50 percent of design is done in house. No construction is performed in house. Construction contracts are awarded through competitive bidding. *Jack Beisel, Dir., Design*

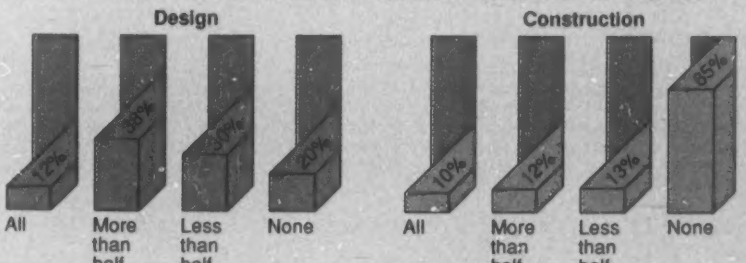
36 (—) **$14.20**
Wendy's International Inc.
P.O. Box 256
Dublin, OH 43107

Construction volume was estimated by *BD&C*. The firm rejoins the list this year. Construction volume was generated by the addition of approximately 30 new units and by reconstruction of about 125 units. More than 50 percent of design and construction is performed in house. Building methods include competitive bidding for construction and negotiated contracts for design. *Hank Sherowski, VP, Eng.; John Houck, Sr. Dir., Const.*

39 (—) **$9.20**
Round Table Pizza
655 Montgomery
San Francisco, CA 92111

Construction volume was estimated by *BD&C*. The firm is a new addition to the list this year. Primary operations are on the West Coast. A unit was opened in Japan in 1988. More than 50 percent of design is performed in house. No construction is performed in house. Building methods include competitive bidding for construction and negotiated contracts for design. *Peder T. Kruger, Dir., Design & Const.*

How much work do the Hotels/Motels/Restaurants do in house?



40 (—) **$8.50**
Furr's/Bishops Cafeteria's
P.O. Box 6747
Lubbock, TX 79493

Construction volume was estimated by *BD&C*. The firm is a new addition to the list this year. Furr's/Bishops is known for cafeteria development in the Midwest, Southwest and West. Construction volume was generated by the development of three new units and by reconstruction of 14 units. More than 50 percent of design and less than 50 percent of construction are done in house. *Michael L. Price, Mgr., Const.*

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GOVERNMENT AGENCIES

CONSTRUCTION SPENDING RISES FROM $15.2 TO $17.9 BILLION

Increased federal expenditures contribute substantially to the higher total for this group

1 (1) **$2,298.03**

U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, DC 20585

Approximately 50 percent of the Department of Energy's building construction involves labs and other research facilities. No design or construction done in house. Design/build, fast-track scheduling, construction management and negotiated contracts for design and construction are used by this federal agency as well as competitive bidding. *Robert R. Kemps, Dir., Proj. & Fac. Mgmt.*

2 (3) **$2,252.33**

U.S. Naval Facilities Engineering Command
200 Stoval St.
Alexandria, VA 22332

Current projects include a $24 million maintenance building and a $13 million navigational facility on Staten Island, N.Y., a hospital in Washington, D.C., and family housing in San Bueno, Calif. No design or construction done in house. *Rear Admiral B.F. Montoya, Commander*

3 (2) **$1,808.00**

U.S. Army Corps of Engineers
Resource Management Office (CERM-FC)
Washington, DC 20314

All building construction is done at military installations and includes family housing. Less than 50 percent of design done in house; no construction done in house. The construction volume reported above does not reflect work done at overseas installations, which will cost an additional $387 million in fiscal year 1990. *Richard Hanson, Chief, Const. Div.*

4 (6) **$1,408.00**

U.S. Postal Service
475 L'Enfant Plaza
Washington, DC 20260

The Postal Service is implementing new policies emphasizing competitive negotiations and has increased its use of design/build. It has also developed a program of computerized standard plans — the so-called "Kit of Parts" for customer service facilities up to 35,000 square feet. *Stanley W. Smith, Asst. Postmaster General; John N. Wiernicki, Dir., Design & Const.*

5 (5) **$1,353.96**

Ohio Division of Public Works
30 E. Broad St., 35th Fl.
Columbus, OH 43215

Less than 50 percent of design done in house; no construction done in house. Recently completed projects include a 32-story state office tower in Columbus and correctional facilities in Grafton, Mansfield and Warren. This agency uses design/build, construction management and negotiated design contracts in addition to competitive bidding. *Carole J. Olshavsky, Dep. Dir., Public Works*

6 (4) **$1,251.90**

U.S. Air Force
HQ USAF/LEE
Washington, DC 20330

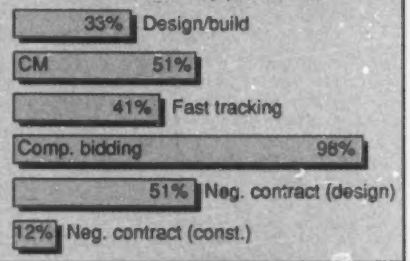
Building design and construction for the Air Force are administered by the U.S. Army Corps of Engineers and the U.S. Naval Facilities Engineering Command. Some design but no construction done in house. *Major General Joseph A. Ahearn, Dir., Eng. & Svcs.; Brigadier General James E. McCarthy, Dep. Dir.*

7 (7) **$622.34**

U.S. Veterans Administration
810 Vermont Ave., N.W.
Washington, DC 20420

Among recently completed projects are nursing homes in Lyons, N.J., and San Antonio, Texas; clinical facilities in Fayetteville, N.C., Charleston, S.C., and Temple, Texas; and ambulatory care projects at Shreveport, La., and Altoona, Pa. Ninety-four percent of the agency's construction involves hospitals/health care. *G.S. Neumann, Acting Dep. Asst. Secretary, Facilities*

How many of the Government Agencies use these delivery processes?



8 (11) **$528.00**

U.S. General Services Administration (GSA)
18th & F Streets, N.W.
Washington, DC 20405

Eighty-five percent of GSA's construction involves office space. The agency has recently placed a new emphasis on border stations. Priority has also been given to safety-related items, such as asbestos and PCB removal and sprinklers. *William C. Coleman, Commissioner, Public Bldg. Svcs.; Robert J. Diluchio, Asst. Commissioner, Real Property Development*

9 (9) **$450.00**

N.Y.C. Department of General Services
1 Centre St.
New York, NY 10007

Less than 50 percent of design and no construction done in house. Only competitive bidding is used for construction. Recent projects include an 800-bed correctional facility, and the $60 million renovation of a municipal office building. *Benedetto Puccio, Asst. Commissioner, Desiyn; William Morris, Asst. Commissioner, Const.*

***The U.S. Postal Service recently completed** a new facility in Cordova, Tenn. Some 6,000 construction and alteration projects were under way in fiscal year 1989.*

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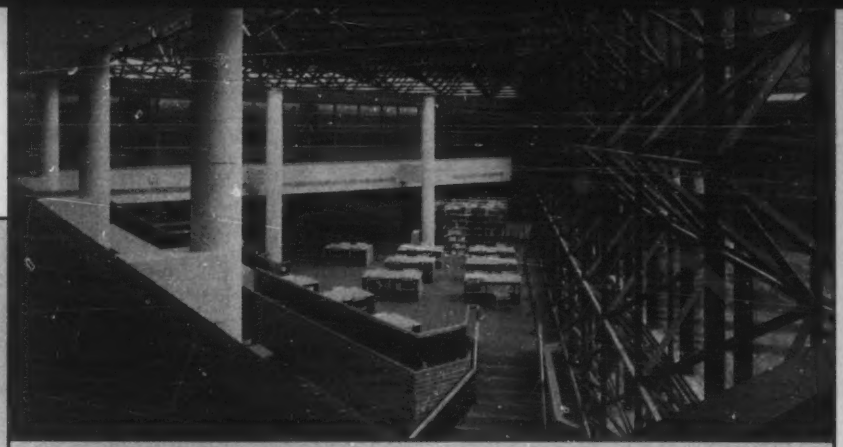
GOVERNMENT AGENCIES



The Medgar Evers College Library is a component of a new $37 million academic facility completed for the college by the New York State Dormitory Authority.
Photo: Michael Hemberger, Corporate Graphics Resources

10 (8) **$432.00**
New York State Dormitory Authority
161 Delaware Ave.
Delmar, NY 12054

This agency provides financing and facilities construction for a number of institutions in the state of New York, including state universities, nonprofit colleges and universities, and nonprofit hospitals. Construction volume reported above includes $30 million for reconstruction. Less than 50 percent of design and no construction done in house. *John C. Egan, Exec. Dir.; Sam R. Davidson, Dep. Exec. Dir., Const.*

11 (10) **$415.08**
U.S. Marine Corps
Fac. & Svcs. Div.
Marine Corps (GH) HQ
Code L
Washington, DC 20380

Less than 50 percent of design and no construction done in house. Negotiated contracts for design and competitive bidding for construction are used. Construction for the Marine Corps is administered by the U.S. Naval Facilities Engineering Command. *Brigadier General W.T. Adams, Dir., Fac. & Svcs. Div.*

12 (13) **$370.00**
Florida Division of Building Construction
2737 Centerview Drive
Tallahassee, FL 32399

Correctional facilities and offices account for approximately one-half of this agency's construction. Design/build, construction management, competitive bidding for construction and negotiated contracts for design and construction are used. No design or construction done in house. A new, 365,000-sq.-ft., $29 million prison prototype was completed in Orange County in 1989. *Robert Boerema, Div. Dir.; William Scaringe, Asst. Div. Dir.*

13 (15) **$358.15**
New York State Office of General Services
Tower Building
Empire State Plaza
Albany, NY 12242

The Design & Construction Group of the Office of General Services is primarily known for construction of correctional facilities and rehabilitation of various state-owned buildings. More than 50 percent of design but no construction done in house. *Raymond W. Casey, Exec. Dir., Design & Const.*

14 (21) **$300.00**
South Carolina Division of General Services
1201 Main St.
Columbia, SC 29201

School-related construction and correctional facilities account for approximately one-half of this agency's work. Design/build, construction management and competitive bidding for construction are used. No design or construction done in house. *Jay Flanagan, State Eng.; Steve Tyler, Dep. State Eng.*

15 (23) **$253.00**
Texas Department of Corrections
P.O. Box 99 NC
Huntsville, TX 77340

Construction volume reported above is for the fiscal year ended Aug. 31, 1989. Construction volume for the current year is expected to increase to $370 million. Less than 50 percent of design and construction done in house. All construction involves correctional facilities in Texas. *Robert E. Petty, Asst. Dir., Fac.*

16 (17) **$242.00**
U.S. Public Health Service
5600 Fishers Lane
Rockville, MD 20857

Hospitals/health care facilities accounted for 55 percent of construction volume, while labs and research facilities accounted for another 40 percent. Under way is a $33 million renovation of St. Elizabeth's Hospital in Washington, D.C., and a $70 million program to build health facilities in various Western states and Alaska for the Indian populations. *Kathleen Furey Martin, Dir., Div. of Health Fac. Plnng; Luther Flouton, Chief, Plnng. & Review*

17 (22) **$231.05**
Illinois Capital Development Board
300 Stratton Building
Springfield, IL 62706

Construction volume reported above is for the fiscal year ended June 30, 1989. Volume for the current year is expected to jump to $1 billion due to a new prison construction program and numerous asbestos-removal projects. Less than 50 percent of design and no construction done in house. *Gary Skolen, Exec. Dir.; Edward Smith, Dir. of Const.*

18 (19) **$216.00**
Connecticut Department of Public Works
165 Capitol Ave.
Hartford, CT 06106

New legislation allows this agency to conduct direct negotiations with design professionals and contractors to accommodate an accelerated prison expansion program. Prisons account for approximately 67 percent of construction. *Richard Piotrowski, Dep. Commissioner, Fac. Design & Const.; Russell Doeg, Dir.*

19 (12) **$206.50**
California Department of Corrections
501 J St., Suite 300
Sacramento, CA 94283

More than 50 percent of design but no construction done in house. In addition to competitive bidding for construction, design/build and construction management are used. Construction volume for the current fiscal year is expected to increase to $313 million. *Kyle McKinsey, Dep. Dir., Plnng. & Const.; Kevin Carruth, Asst. Dep. Dir.*

20 (34) **$192.31**
Federal Bureau of Prisons
320 First St., N.W.
Washington, DC 20534

This agency is responsible for construction, expansion and renovation of federal prisons throughout the country. A large expansion program is expected to drive construction volume upward in the near future. Less than 50 percent of design and construction done in house. *Scott Higgins, Chief, Fac. Development*

21 (16) **$188.00**
Alabama Building Commission
800 S. McDonough St.
Montgomery, AL 36130

Schools account for 60 percent of this state agency's construction, prisons for 25 percent and offices for 15 percent. No design or construction done in house. Only competitive bidding is used for construction. Under way is a 700,000-sq.-ft. state office building in Montgomery as well as new high schools in a number of locations. *Phil Sharpe. Dir.*

22 (29) **$185.00**
NASA
Code NXF
Washington, DC 20546

NASA construction projects include space flight control centers, space shuttle manufacturing facilities, materials research labs, electronics labs and life sciences labs. Design/build, construction management, competitive bidding and negotiated contracts for construction are used. Some design and construction done in house. *Billie J. McGarvey, Asst. Assoc. Administrator, Fac. Mgmt.*

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23 (25) $175.00
Massachusetts Division of Capital Planning and Operations
One Ashburton Place
Boston, MA 02108

In addition to competitive bidding for construction, design/build and construction management are used by this state agency. Less than 50 percent of design and no construction done in house. Due in part to an expanding prison program, construction is expected to increase to $325 million for the current fiscal year, which will end in July 1990. *John I. Carlson, Dep. Commissioner; Ralph Nee, Dir., Fac. Mgmt.*

24 (—) $160.00
Boston Public Facilities Department
26 Court St., 6th Fl.
Boston, MA 02108

Schools accounted for approximately 40 percent of construction, health care facilities for 40 percent and offices and jails for 10 percent each. Among current projects are two new police stations, two hospital renovation prcjects and a reroofing program for 38 schools. No design or construction done in house. *Joseph Lewin, Dep. Dir., Const. & Repair; Lisa Chapnick, Dir., Public Fac. Dept.*

25 (20) $154.03
North Carolina State Construction Office
300 N. Salisbury
Raleigh, NC 27603

Schools/educational facilities account for approximately 45 percent of this state agency's construction. Current projects include a university library in Greensboro, a university classroom facility in Boone and a boiler plant for the University of North Carolina in Chapel Hill. *Speros J. Fleggas, Acting Dir.; C. Carlton Myrick, Dep. Dir.*

26 (18) $150.00
Michigan Office of Facilities
P.O. Box 30026
Lansing, MI 48909

In addition to competitive bidding for construction, negotiated contracts for design and construction management are used by this state agency. Less than 50 percent of design and no construction done in house. *Larry Bennett, Acting Dir.*

27 (39) $150.00
Minnesota Div. of State Bldg. Const.
State Admin. Bldg., G-10
50 Sherburne
St. Paul, MN 55155

Less than 50 percent of design and no construction done in house. Construction management and fast track scheduling have been used in addition to competitive bidding for construction. *Bruce Taber, Dir.; A. Thomas Ulness, Asst. Dir.*

28 (30) $141.10
Maryland Department of General Services
301 W. Preston St.
Baltimore, MD 21201

Schools/educational facilities account for the largest share (35 percent) of this state agency's construction, followed by correctional facilities (25 percent), offices (13 percent) and health care (10 percent). Construction volume for the current fiscal year is expected to increase by about 30 percent. Less than 50 percent of design and no construction done in house. *Earl Seboda, Secretary; Eric Walbeck, Asst. Secretary*

29 (27) $127.50
U.S. Department of Transportation
400 7th St., S.W.
Washington, DC 20590

This federal agency's construction primarily involves various facilities for the U.S. Coast Guard and the Federal Aviation Administration. Less than 50 percent of design and no construction done in house. Only competitive bidding is used for construction. *Angelo Picillo, Dep. Dir., Admin. Svcs. & Property Mgmt.*

30 (45) $110.55
City of Phoenix
125 E. Washington St.
Phoenix, AZ 85004

Less than 50 percent of design and construction are done in house. Construction management as well as competitive bidding for construction are used. Projects under way include a new $109 million airport terminal, a $50 million sports arena and various police, fire and recreational facilities. *Kenny Harris, Acting City Eng.*

31 (33) $109.35
Washington State Division of Public Works
206 General Admin. Bldg.
Olympia, WA 98504

Only competitive bidding is used for construction. Less than 50 percent of design and no construction done in house. Building construction includes offices (37 percent of total), schools/educational facilities (30 percent) and correctional facilities (17 percent). *Maris Grobins, Acting Asst. Dir.; Keith Johnson, Eng. Mgr.*

32 (36) $102.08
New Jersey Division of Building Construction
CN 325
Trenton, NJ 08625

Projects under way include a new $80 million, 2,000-bed prison, and expansions and/or improvements to more than 10 other prisons. Prisons account for 20 percent of building construction, schools and health care projects for 15 percent each and offices for another 10 percent. *Thomas H. Bush, Dir.; Charles A. Strand, Dep. Dir.*

33 (35) $90.00
Wisconsin Division of State Facilities Mgmt.
P.O. Box 7866
Madison, WI 53707

Less than 50 percent of design, no construction done in house. Construction volume includes prisons (25 percent), schools/educational facilities (25 percent) and laboratories/research facilities (15 percent). Competitive bidding for construction and negotiated contracts for design are used. *Jerald Slack, Administrator; Fred Loewen, Chief Arch.; Bob Brandherm, Chief Eng.*

34 (31) $80.68
Pennsylvania Department of General Services
18th & Herr Streets
Harrisburg, PA 17120

Hospitals/health care account for 30 percent of building construction, prisons for 25 percent and schools/educatinnal facilities for another 15 percent. Less than 50 percent of design and no construction done in house. *H.P. Anderson, Dep. Sec., Pub. Wks.; William Kosco, Dir., Eng./Arch.; Roy Walker, Dir., Const.*

35 (40) $77.00
Utah Div. of Facilities Construction & Mgmt.
4110 State Office Bldg.
Salt Lake City, UT 84114

Construction management as well as competitive bidding for construction are used. Projects under way include a headquarters complex in Draper for the National Guard and a $37 million prison campus in Gunnison. Construction volume for the current year is expected to increase to $100 million. No design or construction done in house. *Wayne J. Bingham, Asst. Dir.*

36 (26) $75.00
St. Paul Port Authority
1900 Landmarks Tower
345 St. Peter St.
St. Paul, MN 55102

No design or construction done in house. Design/build and competitive bidding for construction are used. This agency is involved primarily in the construction of industrial parks through public-private partnerships. It is currently expanding into suburbs adjoining St. Paul. *Larry Langer, Chief Eng.*

37 (37) $73.64
Missouri Division of Design and Construction
Box 809
Jefferson City, MO 65102

Only competitive bidding for construction and negotiated contracts for design are used by this state agency. Construction volume is expected to increase to roughly $100 million during the current fiscal year, which will end in June 1990. *Ronald Norris, Dir.; Robert Keller, Asst. Dir.; Michael Berendzen, Chief Arch.*

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GOVERNMENT AGENCIES

38 (28) $73.41
Hawaii Dept. of Accounting & General Services
P.O. Box 119
Honolulu, HI 96810

Building construction volume during the current fiscal year is expected to increase to $145 million. Some design and construction done in house. Competitive bidding for construction and negotiated contracts for design are used. Schools account for more than 60 percent of this state agency's construction. *Russel Nagata, Dir.; Teuane Tominaga, State Pub. Wks. Eng.*

39 (—) $65.00
Houston Dept. of Public Works
P.O. Box 1562
Houston, TX 77251

Airport terminal construction accounted for the largest share of this municipal agency's building construction. Less than 50 percent of design and no construction done in house. A $17 million police command station began construction in September 1989. *Richard Scott, Dep. Dir.; Russell Mai, Mgr., Fac. Const.; Frank Glass, Acting Mgr., Arch. Svcs.*

40 (47) $64.28
Colorado Department of Corrections
2862 South Circle, #400
Colorado Springs, CO 80906

Construction volume for the current year is expected to increase to $100 million. Some design and construction done in house. Construction management, competitive bidding for construction and negotiated contracts for design are used. *John Gillogley, Dir., Fac. Svcs.*

41 (42) $80.00
District of Columbia Dept. of Public Works
2000 14th St., N.W.
Washington, DC 20009

Prisons account for 40 percent of building construction, offices for 25 percent, educational facilities for 25 percent and various police and fire stations, libraries, etc., for the remaining 10 percent. Less than 50 percent of design and construction done in house. *Cyril Crandon, Administrator, Design, Eng., & Const.; Mo Fateh, Chief, Bldg. Const. Svcs.*

42 (41) $80.00
Kansas Division of Architectural Services
825 Polk St.
Topeka, KS 66603

Prisons account for the largest share of construction (50 percent), followed by educational facilities (25 percent) and health care (10 percent). Among projects under way are a new 1,400-bed maximum/medium security prison, a 150-bed mental health facility and a science lab for Wichita State University. The design of projects under $250,000 is done in house, but no construction done in house. *Edward DeVilbiss, Dir.; Gerald Carter, Dir., Plnng. & Design*

43 (44) $55.00
Arkansas State Building Services
1515 W. Seventh St., #700
Little Rock, AR 72201

Under construction are regional prisons in Calico Rock and McGhee, and a dormitory complex for the University of Arkansas in Pine Bluff. Educational facilities account for 55 percent of this agency's building construction. No design or construction done in house. *Jerry Sanders, State Arch.*

45 (49) $47.00
Arizona Facilities Design and Construction Office
1700 W. Washington St.
Phoenix, AZ 85007

Offices accounted for 70 percent of the construction dollars reported above, followed by prisons (20 percent) and educational facilities (10 percent). The construction breakdown for the current fiscal year will change significantly with the bidding of several major prison projects. No design or construction done in house. *Steve Connor, Mgr.; Frank Kovach, Sr. Proj. Mgr.; John Holmes, Chief Eng.*

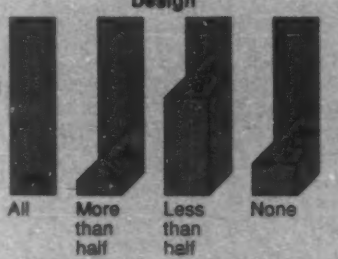
46 (50) $41.00
Texas Facilities Const. and Space Mgmt. Division
P.O. Box 13047
Austin, TX 78711

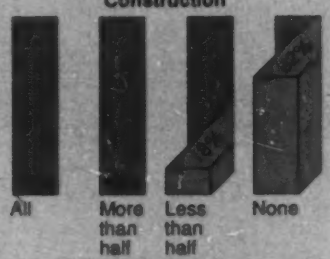
Nearly all work done by this state agency involved construction or renovation of office space. Current projects include two office buildings in Austin totaling $30 million. *John Hodges, Dir.*

47 (46) $40.11
Nebraska State Building Division
State Capitol Building, 10th Fl.
Lincoln, NE 68509

Design/build, construction management and competitive bidding for construction are used. Renovation and reconstruction accounted for roughly half of this agency's work. Some design and construction done in house. *Wayne Haller, Danny Schlichenmaier, Steve Hotovy, Archs.*

How much work do the Government Agencies do in house?





48 (24) $30.00
Los Angeles Department of Public Works
200 N. Main St.
Los Angeles, CA 90012

Construction volume is expected to increase dramatically during the current fiscal year due to two new major projects: a central library and a convention center expansion. Some design but no construction done in house. Construction management is used in addition to competitive bidding for construction and negotiated design contracts. *P.J. McCarty, Prin. Arch.*

44 (43) $48.00
California Department of General Services/Office of the State Architect
400 P St.
Sacramento, CA 95814

More than 50 percent of design done in house but less than 50 percent of construction. Only competitive bidding for construction and negotiated design contracts are used. *M.J. Bocchicchio, State Arch.; Larry Guthrie, Chief, Arch. & Eng.*

49 (14) $25.00
Louisiana Dept. of Fac. Planning and Control
P.O. Box 94095
Baton Rouge, LA 70804

Offices accounted for 40 percent of building construction, followed by educational facilities (30 percent), prisons (20 percent) and various research facilities (10 percent). Construction volume is expected to increase to roughly $90 million during the current fiscal year. *James R. Hill, Chief Arch.; Julius Birch, Chief Eng.*

50 (—) $19.20
San Francisco Dept. of Pub. Works/Bur. of Arch.
City Hall, Rm. 285
San Francisco, CA 94102

This agency is responsible for all public buildings in San Francisco. More than 50 percent of design but no construction done in house. Design/build, construction management, competitive bidding for construction and negotiated design contracts are used. *Norman Karasick, City Arch.; Arthur Lee, Asst. City Arch.*

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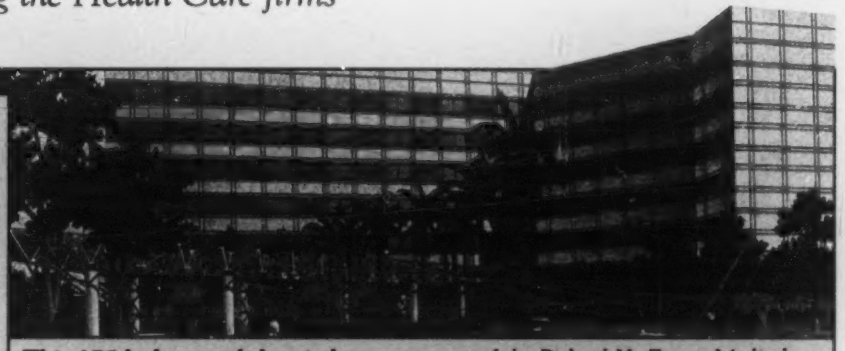
HEALTH CARE

EXPANDING SERVICES GENERATE NEW CONSTRUCTION

Satellite facilities contribute to increased construction spending among the Health Care firms

1 (1) **$375.00**
Kaiser Foundation Hospital and Health Plans
One Kaiser Plaza
Oakland, CA 94612

The firm reports a 50 percent increase in construction volume for 1988 and anticipates more than a 50 percent increase for 1989. Building methods include design/build and construction management from outside firms. Competitive bidding and negotiated bidding are used to award construction contracts. Less than 50 percent of design and construction is performed in house. *W.J. Logan Jr., Mgr., Prop. & Fac.*



This 275-bed research hospital, a component of the Richard K. Eamer Medical Plaza in Los Angeles, is being developed by National Medical Enterprises.

2 (4) **$182.53**
New York State Facilities Development Corp.
909 Third Ave.
New York, NY 10022

The organization develops and rehabs community-based care facilities for the mentally disabled throughout New York. Firm's construction volume consists of approximately $27 million for new construction and $155 million for renovation. Recent projects include 48 prototype 12-bed community residences and the $30 million reconstruction of the Psychiatric Institute in New York City. *Walter J. Hinckley, Exec. Dir.; Sidney L. Delson, Design Dir.*

3 (7) **$175.00**
National Medical Enterprises Inc.
11620 Wilshire Blvd.
Los Angeles, CA 90025

Construction volume was estimated by *BD&C*. The publicly held firm has operations in 45 states and Washington, D.C., and operates or manages 497 facilities. Current projects include USC University Hospital in Los Angeles and the three-building Richard K. Eamer Medical Plaza in Los Angeles. *Sherwin E. Small, Exec. VP, Const. & Design; Mark E. Schieff, Sr. VP, Const. & Design*

4 (6) **$165.00**
Charter Medical Corp.
P.O. Box 209
Macon, GA 31298

The firm currently has approximately 55 projects under way throughout the U.S., including 12 hospitals of 50,000 square feet. The privately owned firm negotiates approximately half of its construction contracts and competitively bids the other half. Design is done by outside firms with negotiated contracts. *J. Rodney Laughlin, Exec. VP, Ptng. & Devel.; R. Lee deLoache, Sr. Exec. Dir., Design & Const.*

5 (3) **$160.00**
Humana Inc.
P.O. Box 1438
Louisville, KY 40201

This publicly traded firm performs all design and no construction in house. Approximately $50 million of the construction volume is for new facilities and $110 million is for reconstruction. Recent projects include the renovation of a 70,000-sq.-ft. hospital in Dallas and more than 110,000 square feet of new construction and reconstruction at a hospital in Phoenix. *Doug Heisler, VP Design & Const.; Edwin Green, Dir., Ptng. & Design*

6 (2) **$150.00**
Hospital Corp. of America
One Park Plaza
Nashville, TN 37203

Construction volume was estimated by *BD&C*. Six new psychiatric or substance abuse facilities were completed in 1988. Design and construction contracts are negotiated. No design or construction is performed in house. The firm uses outside construction management. *Ernie Mayer, VP, Design & Const.; Elbert Garner, Asst. VP, Design & Const.*

7 (5) **$129.00**
American Medical International Inc.
414 N. Camden Drive
Beverly Hills, CA 90210

Construction volume was estimated by *BD&C*. The firm owns 49 acute care and six psychiatric hospitals in the U.S. and 24 similar facilities overseas. While many of the firm's hospitals are small, AMI is concentrating on larger hospitals in growth markets and is looking into new program development and facilities expansion. No design or construction is performed in house. *John Baker, Asst. VP, Fac.*

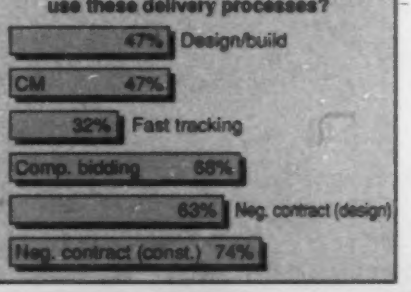
8 (18) **$98.00**
Massachusetts General Hospital
Fruit Street, Dept. WEH2
Boston, MA 02114

Construction volume was estimated by *BD&C*. The firm is in the midst of a $169 million facilities development program that includes two new multistory hospitals to replace existing in-patient facilities. The firm recently purchased a research facility that it formerly leased. Less than 50 percent of design and construction is done in house. Building methods include design/build, construction management from an outside firm and fast track scheduling. *Anand K. Seth, Dir., Fac. Eng.*

9 (8) **$85.60**
Life Care Services Corp.
800 Second Ave.
Des Moines, IA 50309

The privately held firm develops life-care retirement facilities. Its parent firm, Weitz Co., performs all construction duties. Less than 50 percent of design is performed in house. Projects include Ginger Cove in Annapolis, Md., which includes 243 apartments and 43 health-center beds, and Harbour's Edge in Delray, Fla., which includes 276 apartments and 54 health-center beds. *Bill Klemme, VP/Dir., Devel.; Steve Hooker, VP/Dir., Devel.; Francis Snook, VP/Weitz Const.*

How many of the Health Care organizations use these delivery processes?



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HEALTH CARE

10 (10) **$64.00**
Universal Medical Buildings
839 N. Jefferson St.
Milwaukee, WI 53202

The publicly traded firm performs all design in house and uses negotiated contracts for construction. Development is concentrated on outpatient medical buildings. The firm's construction volume and staff each increased by 50 percent during 1988. The firm anticipates its construction volume will increase by 25 percent during 1989. *Joseph Checota, CEO; Jerry W. Spencer, Sr. VP, Arch.; Charles E. Gibson, Sr. VP, Const.*

14 (14) **$26.90**
Harris Methodist Health System
1325 Pennsylvania Ave.
Fort Worth, TX 76104

Construction volume was estimated by *BD&C*. This nonprofit organization is currently building a psychiatric hospital at its Bedford, Texas, campus. An oncology linear accelerator to be used for the study of cancer is also under construction in Bedford. Reconstruction projects are under way at the firm's nine acute-care hospitals. No design or construction is performed in house. *Ron J. Smith, Pres; Bernard C. Alger, Operations Mgr.; Ron Bourland, Admin. Mgr.*

17 (16) **$20.20**
National HealthCorp. L.P.
P.O. Box 1398
Murfreesboro, TN 37310

This publicly traded firm performs no design or construction in house and uses competitive bidding to award construction contracts. The construction volume includes three new projects for a total of $18 million and three reconstruction projects for a total of $2.2 million. *Tom Morgan, Asst. VP, RE & Devel.*

11 (11) **$60.00**
GHM Inc.
333 E. River Drive
East Hartford, CT 06108

The firm performs less than 50 percent of design and construction in house, although it has a construction subsidiary, Riverside Construction Inc. The privately owned company develops life-care communities mainly on the East Coast. Recent projects include Campbell Farms at Lenox, Mass., a 105-unit complex with a 41-bed nursing facility. Construction volume is expected to increase by almost 50 percent during 1989. *Michael D. Tracton, Dir. Devel. Admin.*

Kaiser, the top-ranked firm in the category, predicts that the California market will account for most of its projected $250 million increase for 1989

12 (15) **$37.00**
New York City Health & Hospital Corp.
346 Broadway, 12 West
New York, NY 10013

This corporation retains construction services through competitive bids and design services through negotiated contracts. More than 50 percent of design work, however, is performed in house, while less than 50 percent of construction is done in house. Recent projects include a new surgical service facility in Queens. *Dennis R. Newman, Asst. VP/Chief Eng.; Robert Weigand, Dep. Chief Eng., Const.; Joseph Squicciarini, Dep. Chief Eng., Design*

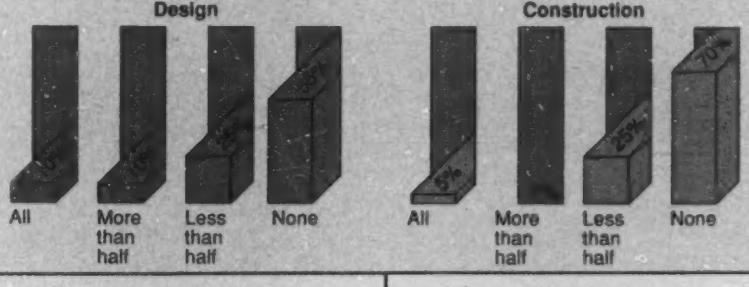
15 (19) **$25.10**
OSF Health Care System
800 NE Glen Oak Ave.
Peoria, IL 61603

Formerly listed as Sisters of the Order of St. Francis, the firm's construction volume consists of $19.5 million in new construction and $5.6 million in reconstruction. Less than 50 percent of design and no construction is done in house. Recent projects include a 15,000-sq.-ft., single-room maternity care center in Rockford, Ill. *Rich Richman, Corp. Dir., Eng.; Wesley Becker, Mgr., Fac. Design*

18 (—) **$10.00**
Jacques-Miller Health Care Inc.
211 Seventh Ave. N.
Nashville, TN 37219

Construction volume was estimated by *BD&C*. This privately owned firm is a new addition to the listing this year. The firm provides nursing, retirement and personal care facilities and substance-abuse rehabilitation centers. No design or construction is performed in house. Design and construction services are awarded through negotiated contract. Recently completed projects include Crensaw Creek Rehabilitation Center in Lancaster, S.C. *Michael Ralph, VP, Const.*

How much work do the Health Care organizations do in house?



19 (17) **$6.00**
Johns Hopkins Hospital
600 N. Wolfe St.
Baltimore, MD 21205

Firm performs more than 50 percent of design and less than 50 percent of its construction in house. Building methods include design/build, outside construction management, competitive bidding for construction and negotiated contracts for design and construction. Firm anticipates construction volume to increase by more than 50 percent during the fiscal year ending June 1990. *Sally W. MacConnell, VP, Fac.; Geoffrey J. Haley, Dir., Maintenance*

13 (14) **$28.02**
Shriners Hospital for Crippled Children
2900 Rocky Point Drive
Tampa, FL 33607

Total construction volume consists of approximately $22 million in new development and $6 million in reconstruction. Volume is anticipated to increase by almost 33 percent in 1989. No design or construction is performed in house. The firm uses design/build and construction management services from outside firms. Renovation or replacement projects occurred in Cincinnati, St. Louis, Spokane, Wash., and Honolulu during 1989. *John Cawood, Controller*

16 (12) **$22.00**
Sutter Health
2800 L St.
Sacramento, CA 95816

This nonprofit organization is known for health care development in northern California. Recent projects include a new psychiatric hospital and the renovation of a hospital, both in Sacramento. No design or construction work is performed in house. Building methods used include design/build, construction management, competitive bidding for construction and negotiated contracts for construction. *Mark Parrington, VP, Strategy Support; Patrick Idler, Dir., Fac. Devel.*

20 (—) **$2.50**
Mischer Development
2727 N. Loop W.
Dallas, TX 77008

Construction volume was estimated by *BD&C*. This publicly traded firm is a new addition to the listing this year. The firm performs no design or construction in house. Building methods include use of negotiated contracts for design and construction and competitive bidding for construction. *Bob McDonald, Proj. Mgr.*

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THE MAGAZINE FOR THE BUILDING TEAM

JULY 1990

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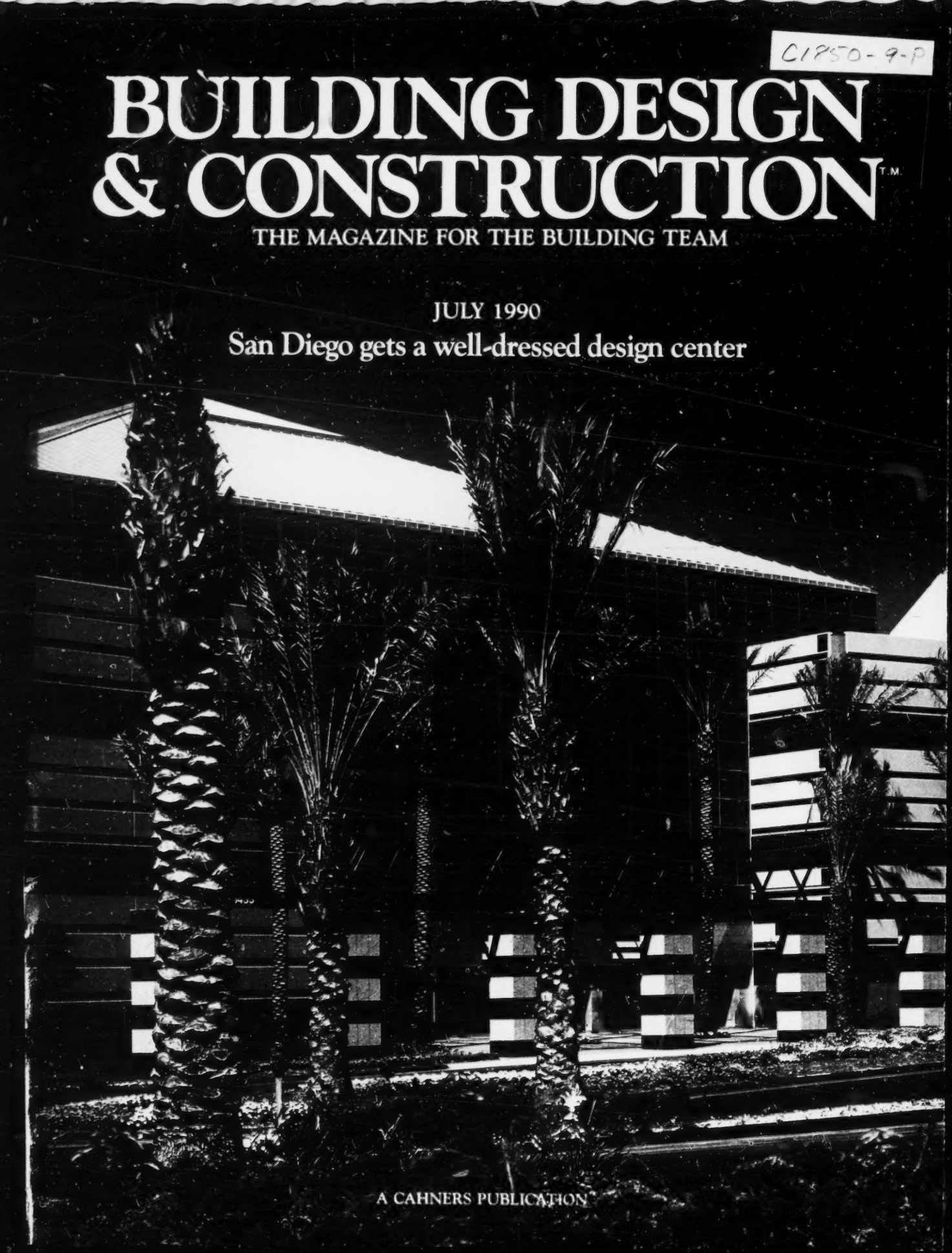

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VOL. 31, NO. 7 THE MAGAZINE FOR THE BUILDING TEAM JULY 1990

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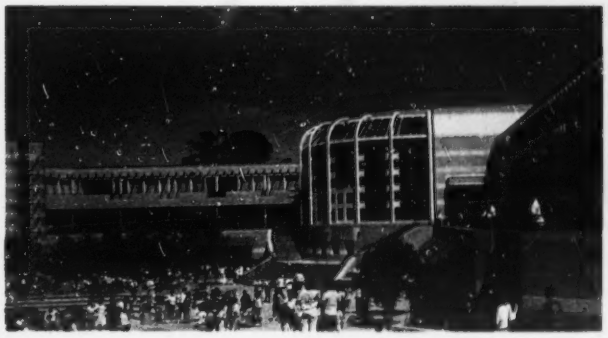

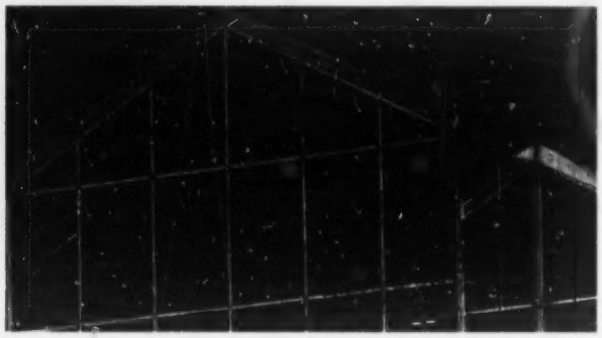

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BUILDING DESIGN & CONSTRUCTION

THE MAGAZINE FOR THE BUILDING TEAM

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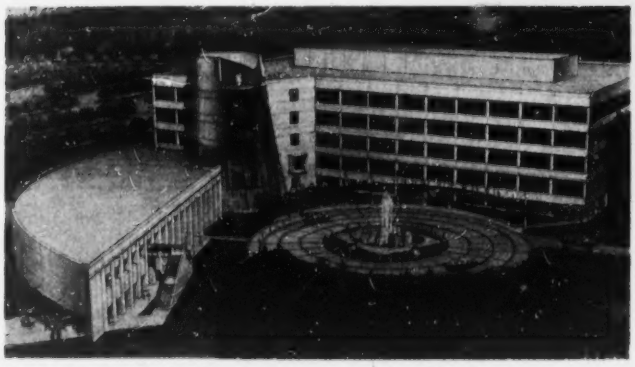

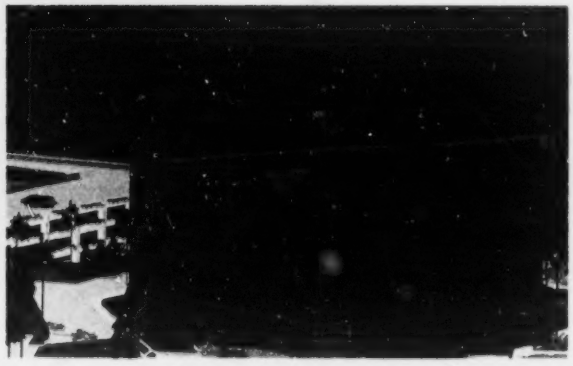

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BD&C's 14th Annual

Specialized services boost the work of top firms

By Christopher Olson, Managing Editor

The results of this year's survey of the nation's largest building designers and constructors reveals that these firms generally prospered in 1989 despite the softness of many U.S. construction markets.

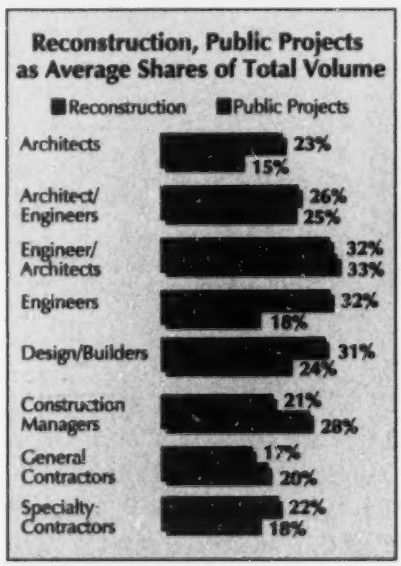
The survey reports on the commercial, industrial and institutional (C.I.I.) work of a total of 300 firms in eight categories: Architects, Architect/Engineers, Engineer/Architects, Engineers, Design/Builders, General Contractors, Construction Managers and Specialty Contractors. Although results from the different categories varied widely, the very largest of the firms tended to turn in the best performances for last year, due in no small part to their greater resources and their corresponding ability to cultivate specialized niches and new opportunities. In addition, those groups whose traditional stock-in-trade has included the industrial and — to a lesser extent — the institutional building markets also tended to fare the best last year.

These two trends can be seen as opposite sides of the same coin. Many industrial clients have been demanding ever-more specialized and productive facilities, and the very largest design and construction firms are in a good position to be single-source suppliers of such facilities. It is also the large firms — both design and construction —that continue to accommodate varied client needs by diversifying their services and fostering specialties.

An example drawn from the constructors is the Charlotte, N.C.-headquartered Jones Group. Last year the firm formed a subsidiary specializing in asbestos removal. Two years ago it launched Jones Capital Corp., which arranges project financing. Three years ago Jones formed a company dedicated to fatilities operation and maintenance. The firm has also increased its involvement in parking structure construction, having built parking facilities at three airports during the past two years.

Hugh Rice, senior vice president of the Fails Management Group, a consultant to contractors, believes that the large contractors continue to gain market share at the expense of smaller contractors. "Owners are attacted by the greater management sophistication typically exhibited by the larger firms, as well as their stronger balance sheets and ability to bond large jobs," he said.

In the Architects category some 42 percent of the firms reported that the scope of their services and/or activity had expanded, either in terms of discipline, geographic region or staff size. Beyer Blinder Belle, for example, has expanded its corporate interiors and facility planning groups and increased its renovation work, helping the firm to offset declines in new commercial construction. In a similar way, Stubbins Associates has increased its activity in laboratories and criminal justice facilities. Wimberly Allison Tong & Goo, Kaplan/McLaughlin/Diaz, the Walker Group and Nix Mann & Viehman all reported growth in their overseas operations, while Jung/Brannen, McClellan Cruz Gaylord & Associates, Ehrlich-Rominger and SGPA expanded into



new regions within the U.S.

The contraction of the commercial market tended to flatten the domestic activity of the Architect/Engineers during 1989. However, firms in this group also reported that diverse projects overseas had helped to pick up the slack. "At one time we were doing overseas work that was more institutionally oriented — schools and hospitals in developing countries," said vice president Lisbeth Quebe of Perkins & Will. "Now we find ourselves doing corporate buildings and developer buildings where design is much more of a consideration." Seven of Skidmore, Owings & Merrill's 14 largest projects are situated overseas, a doubling in the number of such projects from the previous year. The firm also reported that its total staff had grown by 200 members, due largely to expansion of its London office. Leo A. Daly has established an office in Japan, and RTKL reported four major overseas projects. While Hellmuth Obata & Kassabaum's billings from U.S. projects rose by $10 million for 1989, its international billings soared by twice that amount.

Industrial spending passes a peak?

Well-positioned to profit from the surge of industrial spending that took place during the late 1980s, the 50 Engineer/Architects reported nearly a 30 percent increase in their work during 1989, with the top ten firms generally registering the largest increases within that group. U.S. manufacturers and industrials spent large sums over the past several years to modernize their facilities and increase capacity — or simply to catch up with their global competitors. The rising demand for environmental engineering services was also a boon to the Engineer/Architects as well as to those firms in the Engineers category.

For the near future, however, industrial spending is probably on the wane. Bruce Dell, director of marketing for Lockwood Greene Engineers, believes that industrial spending in 1990 will continue, albeit at a more moderate pace and with an eye more to enhancing manufacturing and process efficiency than to increasing capacity. Roger Wozny, president of Omaha-based Schemmer Associates, agrees that industrial spending is winding down for the moment. In the meantime, Schemmer has increased its emphasis on environmental work and affiliations with specialists. Wozny also hopes that the educational and health care markets will prove to be strong, and in the nonbuildings sector, that infrastructure projects will receive greater federal funding as defense is cut back. □

How the Design/Construct survey is conducted

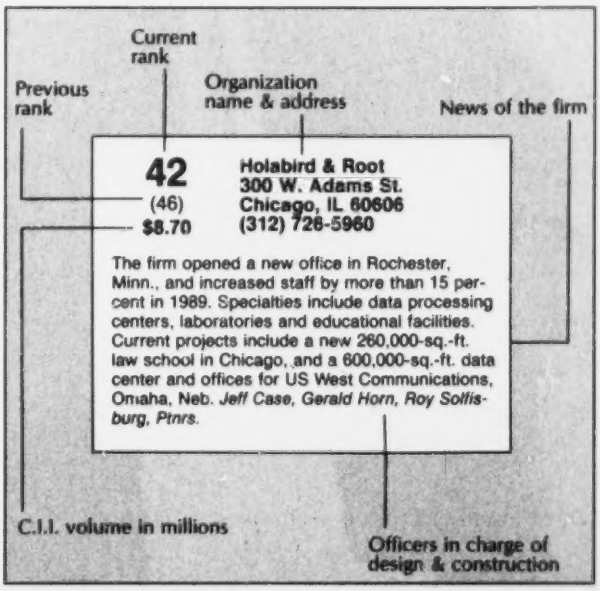
BD&C's Design/Construct 300 consists of the firms that designed and/or constructed the largest volumes of commercial, institutional and industrial (C.I.I.) buildings in the United States during 1989. These 300 firms are divided into eight categories: Architects (50 members), Architect/Engineers (60), Engineer/Architects (50), Engineers (40), Design/Builders (20), General Contractors (50), Construction Managers (10) and Specialty Contractors (20).

Design firms are ranked on the basis of billings for design and planning services performed by their own staffs during 1989 or their most recent fiscal year. Contracting firms and design/builders are ranked on the value of construction which they put in place, and for which they were contractually responsible, during 1989. Construction managers are ranked on the value of the construction that they managed during 1989. *Note:* In previous years the Construction Managers were ranked on the basis of fees earned rather than on the value of construction managed. Firms may appear in more than one category when their volume of work in more than one discipline was great enough to qualify them.

Please note that any revenues unrelated to C.I.I. buildings in the U.S. have been excluded from the figures used for ranking purposes. Thus every effort has been made to subtract revenues derived from roads, dams, bridges, utility plants, water and waste treatment plants, refineries and single-family housing. Pass-through billings representing work by outside consultants have also been excluded.

To compile the data presented in the survey, *BD&C* mails a questionnaire each year to approximately 1,500 firms. In cases where *BD&C* was unable to obtain a response to the questionnaire, C.I.I. revenues were estimated. Any such estimates are noted in the individual report given for each firm in the survey.

The sample report below highlights the information provided on each firm in the survey. □


Current rank
Previous rank
Organization name & address
News of the firm
42
(46)
$8.70
Holabird & Root
300 W. Adams St.
Chicago, IL 60606
(312) 726-5960
The firm opened a new office in Rochester, Minn., and increased staff by more than 15 percent in 1989. Specialties include data processing centers, laboratories and educational facilities. Current projects include a new 260,000-sq.-ft. law school in Chicago, and a 600,000-sq.-ft. data center and offices for US West Communications, Omaha, Neb. Jeff Case, Gerald Horn, Roy Solfisburg, Ptnrs.
C.I.I. volume in millions
Officers in charge of design & construction

ARCHITECTS

ARCHITECTS' BILLINGS RISE BY 12%
More than 50 percent expect revenues to increase in 1990, while 40 percent expect they will remain the same

1 (1) **$63.48**
Gensler & Associates Architects
550 Kearny St.
San Francisco, CA 94108
(415) 433-3700

Staff of 635 includes 146 registered architects. Commercial work was 95 percent of activity and institutional was 5 percent. Firm is doing master planning, architectural design and landscaping for the Arboretum in Santa Monica, Calif., and interior design for the Oracle Corp. Headquarters in Redwood City, Calif. *M. Arthur Gensler Jr., Pres.*

2 (2) **$38.20**
Kohn Pedersen Fox Associates
111 W. 57th St.
New York, NY 10019
(212) 977-6500

Morrison Tower in Portland, Ore.; Independence Square II in Washington, D.C.; and the $50 million First Citizens Bank in Raleigh, N.C., are current projects. Total staff of 320 includes 85 registered architects. Interior design accounted for 25 percent of billings. Activity was 85 percent commercial, 10 percent institutional and 5 percent industrial. *A.E. Kohn, Sheldon Fox, William Pedersen, Ptnrs.*

3 (3) **$33.78**
NBBJ
111 S. Jackson St.
Seattle, WA 98104
(206) 223-5555

NBBJ continues to specialize in the design of high-tech projects and educational and retail facilities. Federal, state and local government work accounted for 31 percent of firm's billings for the last fiscal year, which ended in February. Current projects include the modernization of the Roswell Park Cancer Institute in Buffalo, N.Y. *Friedrich K.M. Bohm, Managing Ptnr.*

4 (5) **$28.00**
Swanke Hayden Connell Architects
4 Columbus Circle
New York, NY 10019
(212) 977-9696

For the fiscal year ending in June 1989, commercial work comprised 95 percent of billings while institutional work comprised the balance. Sixty percent of firm's work involves interior architecture and 15 percent involves reconstruction. Current projects include the 23-story Brooklyn Union Gas Co. building and the $120 million Americas Tower, both in New York City. *Richard S. Hayden, Managing Prin.*

5 (4) **$27.32**
The Hillier Group
500 Alexander Park
CN-23
Princeton, NJ 08543
(609) 452-8888

Subsidiaries include Hillier Technologies and Design Interface. Firm is most recognized for design of corporate offices and educational buildings. Reconstruction accounted for 10 percent of billings during the last year. Current projects include the $50 million New Jersey Aquarium in Camden, N.J., and Bell Atlantic's corporate headquarters in Philadelphia. *J. Robert Hillier, Chmn., CEO*

6 (6) **$25.92**
Pei Cobb Freed & Partners
600 Madison Ave.
New York, NY 10022
(212) 751-3122

Firm was formerly known as I.M. Pei & Partners. The staff of 280 includes 90 registered architects. Activity was 60 percent commercial and 40 percent institutional, with government work accounting for 43 percent of billings during calendar 1989. The $75 million Morton H. Meyerson Symphony Center in Dallas was one of the firm's major projects completed last year. *I.M. Pei, Ptnr.*

7 (11) **$20.56**
The Callison Partnership Ltd.
1420 Fifth Ave.
Suite 2400
Seattle, WA 98101
(206) 623-4646

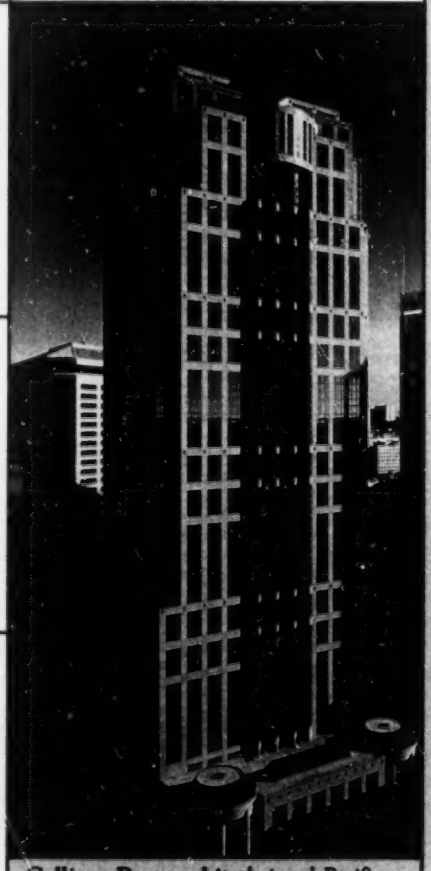
Twenty-five percent of firm's work involved reconstruction during the last fiscal year. Activity was 96 percent commercial, 2 percent institutional and 2 percent industrial. Recently completed projects include the 44-story Pacific First Centre in Seattle and the $14 million expansion and renovation of the Westminster Mall in Westminster, Calif. *David P. Lindsey, Pres.*

8 (16) **$18.87**
Thompson, Ventulett, Stainback & Associates
1200 N. Omni International
Atlanta, GA 30335
(404) 688-5831

Firm is known for design of corporate facilities, mixed-use developments, hotels and convention centers. Activity was 72 percent commercial and 28 percent institutional. Current projects include a federal penitentiary in Atlanta and the Stouffers Hotel, also in Atlanta. Reconstruction accounted for 15 percent of billings and government work accounted for 10 percent. *W.P. Thompson Jr., Pres.*

9 (15) **$16.80**
Stone Marraccini & Patterson
1 Market Plaza, #400
Spear Street Tower
San Francisco, CA 94105
(415) 227-0100

Firm's emphasis is on the design of health care, research and office facilities. Thirty percent of billings involved government work and 15 percent involved reconstruction. Activity was 80 percent institutional, 15 percent commercial and 5 percent industrial. A current project is the $62 million Thornton Hospital for the La Jolla campus of University of California. *Wilbur Tusler, Pres.*



Callison Partnership designed Pacific First Centre, a $200 million mixed-use center in Seattle. Photo: John Stamets

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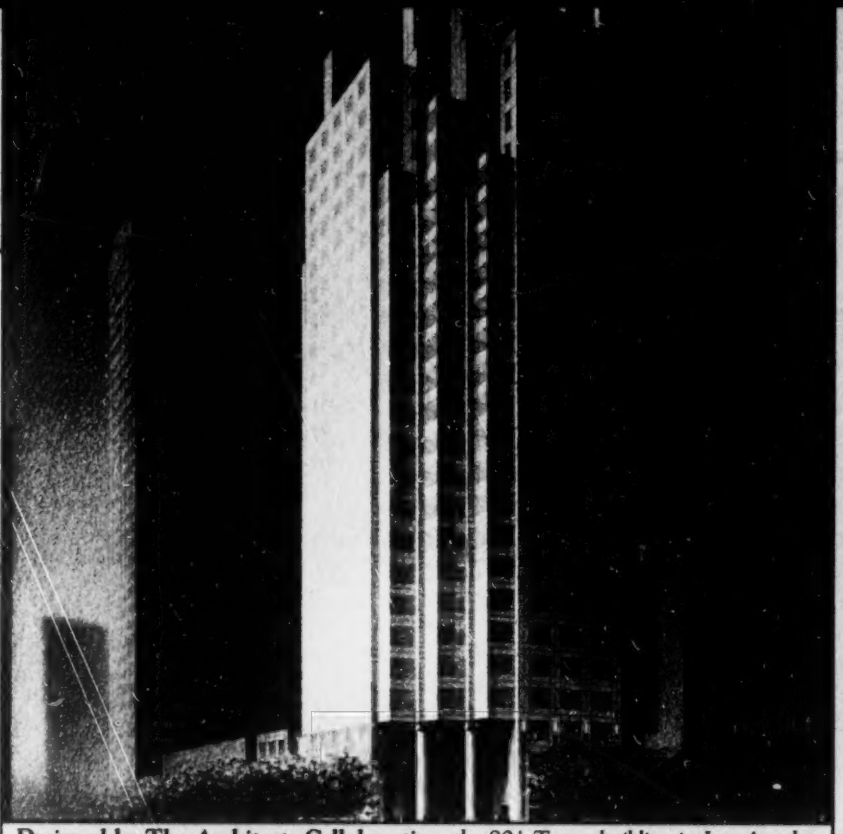
ARCHITECTS

10 (14) $16.00
The Nadel Partnership
1990 S. Bundy, 4th Flr.
Los Angeles, CA 90025
(213) 826-2100

Subsidiary is Morimoto & Associates, an interior design firm in Los Angeles. Firm opened a new office in Sacramento. Activity was 70 percent commercial and 30 percent industrial. Reconstruction accounted for 7 percent of billings during the last fiscal year and government work accounted for 2 percent. Firm expects revenues to increase by 10 percent in the coming year. *Herbert Nadel, CEO*

11 (9) $15.85
Jung/Brannen Associates Inc.
177 Milk St.
Boston, MA 02109
(617) 482-2299

J/B is expanding its New York City and Hartford offices and broadening its work in other areas of the U.S., particularly in Florida. Firm continues to hone its high-tech and laboratory design capabilities to meet growing demand for these services. Ninety percent of work was commercial last year and 21 percent of work involved interiors. *Yu Sing Jung, Pres.; Robert Brannen, Chmn.*



***Designed by The Architects Collaborative**, the 801 Tower building in Los Angeles will include 22 floors of speculative office space.*

12 (7) $14.90
The Architects Collaborative Inc., TAC
46 Brattle St.
Cambridge, MA 02138
(617) 868-4200

Nearly two-thirds of TAC's work was commercial during calendar 1989, while institutional work accounted for the balance. Firm emphasizes mid- to large-scale work on a wide variety of building types. Twenty percent of its work last year was interiors, 25 percent was reconstruction and 22 percent was government-related. Firm also has offices in San Francisco and Kuwait. *Perry King Naubauer, Pres.*

13 (8) $14.85
Kaplan/McLaughlin/Diaz
222 Vallejo St.
San Francisco, CA 94111
(415) 398-5191

Billings estimated by *BD&C*. KMD has regional offices in Los Angeles and Portland, Ore. Firm has designed eight projects in Japan, ranging from offices to resorts to elderly care facilities. Firm has seen an increase in ambulatory care projects in the U.S. *Herbert McLaughlin, Prin.; James Diaz, Prin; Roy Latka, Pres.*

14 (10) $13.60
Cooper Carry & Assoc.
3520 Piedmont Road, N.E.
Suite 200
Atlanta, GA 30305
(404) 237-2000

Commercial projects continue to dominate firm's work, accounting for all but 8 percent of its billings last year. Virtually all work involved new construction. Projects include Hyde Park Plaza, a mixed-use complex in Arlington, Va., that features twin nine-story offices and a 222,000-sq.-ft. residential component. Firm expects revenues to continue at same level this year. *Jerome M. Cooper, Chmn.; Walter T. Carry, Pres.*

15 (12) $13.40
Smallwood, Reynolds Stewart, Stewart & Assoc.
1 Piedmont Center
Suite 303
Atlanta, GA 30305
(404) 233-5453

SRSSA continues to diversify geographically and is increasing its emphasis on corporate design. Firm remains best-known for design of office buildings, operations centers, hotels and mixed-use developments. Interiors-related work accounted for 11 percent of its billings during calendar 1989. All work involved U.S.-based projects. *Phillip L. Smallwood, Pres.*

16 (13) $13.01
The Stubbins Assoc. Inc.
1033 Massachusetts Ave.
Cambridge, MA 02138
(617) 491-6450

Stubbins has seen a decrease in its office design work during the last year and an increase in educational lab and criminal justice work. Firm's billings were nearly evenly split between commercial and institutional projects in 1989. Recent projects include a $23 million neurobiology research building for Duke University in Durham, N.C. *Hugh Stubbins, Chmn.; Richard Green, Pres.*

17 (25) $12.98
LPA Inc.
1 Venture
Irvine, CA 92718
(714) 753-1001

Firm was formerly known as Leason Pomeroy Associates Inc. Commercial projects accounted for 50 percent of firm's work, institutional for 20 percent and industrial for 30 percent. Firm continues to emphasize a number of commercial building types, including retail, mixed-use and corporate headquarters facilities. Recent projects include a 397,000-sq.-ft. office building for IBM in Southlake, Texas. *Leason Pomeroy III, CEO*

18 (24) $12.69
Wimberly, Allison Tong & Goo
2222 Kalakaua Ave.
Honolulu, HI 96815
(808) 922-1253

Firm continues to specialize in the design of hotels and resorts, while expanding its geographic reach to encompass the Pacific Rim, Europe, Mexico and other foreign markets. Last year, 30 percent of its work was for foreign-based facilities. Firm expects that 60 percent of 1990 billings will be in the foreign arena. Twenty percent of work involves reconstruction and 10 percent government projects. *Donald Goo, Pres., CEO*

19 (20) $12.00
Payette Associates Inc.
40 Isabella St.
Boston, MA 02116-5296
(617) 423-0070

Payette is seeing strong growth in the biotechnology market. Firm is known for its design of high-tech facilities for universities, hospitals and other medical institutions, though industrial projects comprised 60 percent of its billings last year. Reconstruction continues to account for 40 percent of its work. Current projects include an ambulatory care facility for Johns Hopkins Hospital in Baltimore. *Thomas M. Payette, Pres.*

20 (50) $11.81
HMC Group
500 East E Street
Ontario, CA 91764
(714) 983-9623

Formerly known as HMC Architects, this firm has increased its staff size from 130 to 155 during the last year. Included in that increase are eight additional registered architects. Institutional projects still account for the lion's share of billings, with health care and school design being two areas of emphasis. Reconstruction comprised 40 percent of work last year. *James D. Chase, Pres.; Walter L. Siegl, Exec. VP*

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21
(19)
$11.50

Beyer Blinder Belle
41 E. 11th St.
New York, NY 10013
(212) 777-7800

BBB has increased its commercial renovation work, while expanding its corporate interiors and facilities planning capabilities. Reconstruction and government-related projects each accounted for 50 percent of firm's billings during last fiscal year. Current projects include the $400 million historic renovation of New York City's Grand Central Station. *Richard Blinder, Managing Ptnr.*

22
(17)
$11.49

Langdon Wilson Architecture Planning
1055 Wilshire Blvd.
Los Angeles, CA 90017
(213) 250-1186

LWAP also has offices in Newport Beach, Calif., and Phoenix. Firm is currently placing special emphasis on health care and educational design. Its work consists primarily of new construction. Recently completed projects include the 52,000-sq.-ft. Richard M. Nixon Presidential Library in Yorba Linda, Calif. *Ernest C. Wilson, Managing Ptnr.*

23
(36)
$11.30

The Spector Group
3111 New Hyde Park Road
North Hills, NY 11040
(516) 365-4240

With the office market slowing, Spector has successfully strengthened its position in health care and retail markets. Interiors-related work continues to account for 20 percent of firm's billings. Recent projects include the Atlantic City Hotel, a 285-room facility in Atlantic City, N.J. *Michael H. Spector, Prin.*

24
(18)
$11.17

Tribble Harris Li Inc.
324 N. College St.
Charlotte, NC 28202
(704) 333-6686

Forty percent of work was derived from projects outside the U.S. Firm is known for its design of commercial office buildings, mixed-use projects and retail centers, and for its planning of office parks. Commercial facilities accounted for 95 percent of firm's U.S. billings during fiscal 1989. Recently completed projects include the $65 million Dominion Tower, an office high rise in Roanoke, Va. *Gerald Li, Chmn.*

25
(22)
$10.38

Gruen Associates
6330 San Vicente Blvd.
Los Angeles, CA 90048
(213) 937-4270

Commercial projects continue to dominate Gruen's work, accounting for 96 percent of its billings during calendar 1989. Firm is best-known for mixed-use centers, office buildings, hotels, regional shopping centers, mart buildings and convention centers. It is emphasizing work in Pacific Rim countries and is currently designing two Jakarta, Indonesia, office buildings. *Ki Suh Park, Managing Ptnr.*

26
(39)
$10.19

Lohan Associates
225 N. Michigan Ave.
Suite 800
Chicago, IL 60601
(312) 938-4455

Lohan has added nine registered architects to its ranks in the last year, bringing its current total to 50. Firm is seeking a diversified practice that includes the planning and design of corporate campuses, cultural and institutional facilities and large-scale commercial developments. Almost all work involves new construction. Interiors accounted for 10 percent of billings last year. *Dirk Lohan, Pres.*

27
(23)
$10.00

The Luckman Partnership
9220 Sunset Blvd.
Los Angeles, CA 90069
(213) 274-7755

Luckman continues to emphasize renovation, with such work comprising 35 percent of its billings during calendar 1989. Its work last year was split between commercial and institutional projects, accounting for 60 and 40 percent of its billings, respectively. Firm is known for its design of office, educational, sports and entertainment facilities. *James Luckman, Ptnr.*

28
(21)
$10.00

SGPA Architecture and Planning
1565 Hotel Circle South
San Diego, CA 92108
(619) 297-0131

SGPA opened a new office in Irvine, Calif. Virtually all of its work is commercial, with retail, office and mixed-use projects being areas of emphasis. Firm expects 1990 revenues to increase by 15 percent. Recently completed projects in San Diego include Sorrento Towers, a $34 million mixed-use facility and Costa Verda, a $30 million retail/mixed-use facility. *Arthur D. Allard, CEO*

29
(30)
$10.00

TRO/The Ritchie Organization
80 Bridge St.
Newton, MA 02158
(617) 969-9400

TRO also has offices in Birmingham, Ala., Sarasota, Fla., and Fall River, Mass. Its staff of 150 includes 42 registered architects. Reconstruction accounted for 65 percent of firm's billings in 1989, as compared with 80 percent in 1988. Institutional projects accounted for 95 percent of firm's billings. Among its design specialties are health care, research and retirement facilities. *Wendell R. Morgan Jr., Pres.*

30
(41)
$9.78

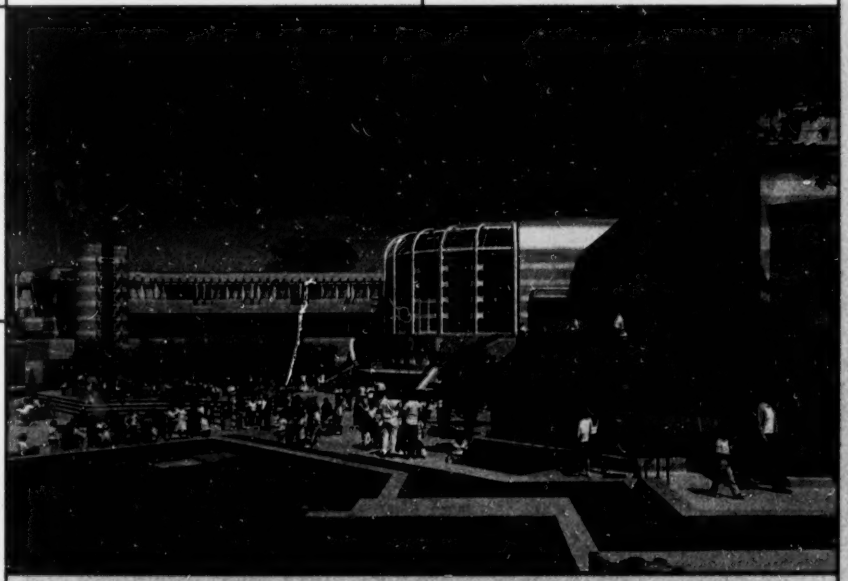
Zimmer Gunsul Frasca Partnership
320 S.W. Oak, Suite 500
Portland, OR 92704
(503) 224-3860

Interiors account for 15 percent of firm's billings. Almost all work last year involved new construction. Firm continues to emphasize a broad range of building types including corporate and speculative offices, health care, government and high-tech industrial facilities. Current projects include the 490,000-sq.-ft. Oregon Convention Center in Portland. *Robert G. Packard, Managing Ptnr.*

31
(40)
$9.72

Loebl Schlossman & Hackl
130 E. Randolph
Suite 3400
Chicago, IL 60601
(312) 565-1800

Reconstruction accounted for only five percent of firm's work last year, compared to 15 percent in 1988. Firm's 1989 work was split between commercial and institutional projects, accounting for 70 and 30 percent of its billings, respectively. Recent Chicago projects include Two Prudential Plaza, a 64-story office tower, and the renovation of Ford City Plaza, the city's largest shopping center. *Donald J. Hackl, Pres.*



The $13.7 million Price Center at the University of California's San Diego campus is among Kaplan/McLaughlin/Diaz's most recent projects.

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ARCHITECTS

32 (—) **$9.70**

BSW Group Inc.
1400 S. Boston
Suite 300
Tulsa, OK 74119-3600
(918) 582-8771

Staff of 130 includes 30 registered architects. This firm is best-known for its work on retail, multifamily housing, chain hotels and shopping centers. Recent projects include several Marriott Residence Inns in the West, Midwest and Southwest. Firm expects revenues to increase by 20 percent in 1990. *Harry P. Lay, Pres.*

33 (33) **$9.58**

Ehrlich-Rominger Architects
4800 El Camino Real
Los Altos, CA 94022
(415) 949-1300

Ehrlich-Rominger continues to specialize in the areas of microelectronics and high-technology manufacturing facilities, which comprise 60 percent of its work. Firm has received a substantial amount of work from corporations that are upgrading their production facilities to accommodate technological advances such as robotics. Reconstruction accounted for 20 percent of its billings. *Joseph Ehrlich, Prin.*

The Johnson Fain and Pereira-designed Rincon Center in San Francisco is a 1 million-sq.-ft. mixed-use facility featuring residential and retail components.

34 (—) **$9.57**

Medifac
411 N. 20th St.
Philadelphia, PA 19130
(215) 665-7000

Medifac specializes solely in the master planning, design and project management of hospital and other health care-related facilities. Seventy-five percent of its work involved reconstruction during calendar 1989. Recent projects include the Muhlenberg Regional Medical Center in Plainfield, N.J., and the All Saints Episcopal Hospital in Fort Worth, Texas. *Norman H. Martin, Pres.*

35 (27) **$9.27**

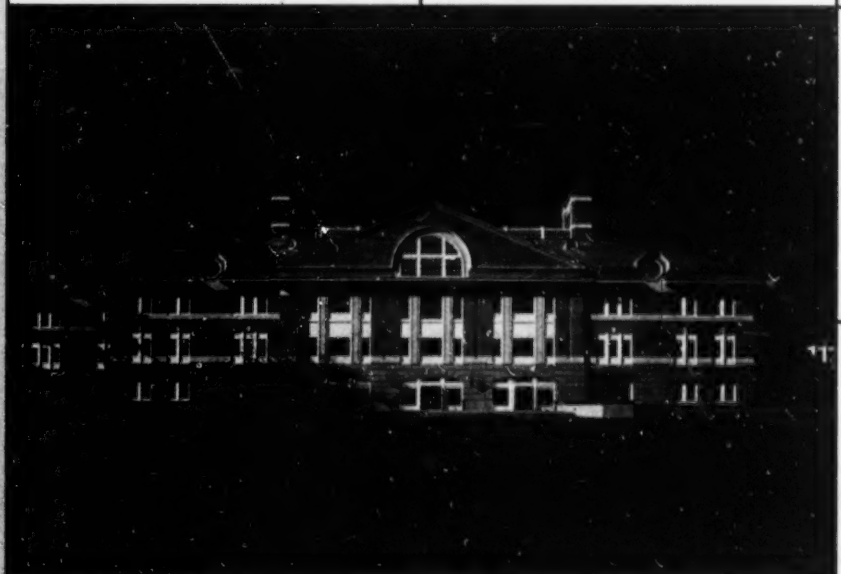
The Martin Organization
242 East 22nd St.
Philadelphia, PA 19103
(215) 665-1080

Staff of 115 includes 45 registered architects. While Martin is best-known for high-rise residential and master-planned communities, it has increased its emphasis on retail, senior living and hospitality markets. Almost none of its work involves reconstruction. Recent projects include Buttonwood II, a $29 million, 225-unit all-suites hotel in Philadelphia. *Richard E. Martin, Pres.*

36 (32) **$8.70**

CHK Architects & Planners
1300 Spring St., Suite 500
Silver Spring, MD 20910
(301) 588-4800

CHK is engaging in more high-rise residential design and less design in other commercial sectors. The majority of its work involves new construction. Current projects in Maryland include Somerset House, an $86 million, 795-unit residential project in Chevy Chase, and WSSC Headquarters, a $37 million, 300,000-sq.-ft. office project in Laurel. *Jack C. Cohen, Chmn.; Jack Smith Kerxton, Pres., CEO*



Shepley Bulfinch Richardson and Abbott designed a new $10 million corporate headquarters for the Andover Companies in Andover, Mass. Photo: Nick Wheeler

37 (—) **$8.60**

Johnson Fain
& Pereira Associates
6100 Wilshire Blvd.
Los Angeles, CA 90048
(213) 933-8341

JF&P is best-known for the design and planning of corporate office, educational, mixed-use and hotel/resort facilities. Recent projects include Carnation Plaza, a $40 million, 21-story headquarters for Carnation Co. in Glendale, Calif., and Los Angeles Center, a phased development that includes two 42-story office towers in Los Angeles. *R. Scott Johnson, Des. Ptnr.; William H. Fain Jr., Managing Ptnr.*

38 (26) **$8.55**

Shepley Bulfinch
Richardson and Abbott
40 Broad St.
Boston, MA 02109
(617) 423-1700

Staff of 140 includes 61 registered architects. SBRA continues to engage primarily in institutional design, which accounted for 95 percent of its billings during calendar 1989. Nearly one-third of its work involved reconstruction. Firm is best-known for college, university and health care-related facilities. Recent projects include the American College of Physicians headquarters in Philadelphia. *George R. Mathey, Pres.*

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ARCHITECTS

39 (—) $8.40
Walker Group/CNI Inc.
520 W. 13th St.
New York, NY 10014
(212) 206-0444

Walker focuses on architecture, retail and financial-related interiors, graphic and package design, and market research. Forty percent of its revenues involved projects outside the U.S. during calendar 1989. One-half of its work involved reconstruction. Firm also has an office in London. *Kenneth H. Walker, Pres., CEO*

43 (45) $7.90
McClellan Cruz Gaylord & Associates
199 S. Los Robles Ave., Suite 400
Pasadena, CA 91101
(818) 793-9119

Staff of 92 includes 39 registered architects. Firm opened a new office in San Francisco and expanded its Irvine, Calif., office. It is known for a wide range of project types including hotel, retail, office, mixed-use and government. More than one-half of work involved reconstruction during last fiscal year. *Robert R. McClellan, Chmn.; Frederick J. Gaylord, Pres.; Adolfo R. Cruz, Exec. VP*

46 (—) $7.50
Cronoyer-Hedrick Architects
2425 E. Camelback, 4th Fl.
Phoenix, AZ 85016
(602) 381-4848

CHA's staff of 95 includes 23 registered architects. Firm is best-known for office buildings, corporate offices, resorts, hotels, specialty retail, mixed-use developments and master-planned communities. Commercial work accounted for 70 percent of its billings last fiscal year. The firm merged with A. Wayne Smith & Associates, a land planning and landscape architecture firm, in January 1989. *Jeffrey Cronoyer, Pres.*

40 (34) $8.00
Rochlin Baran & Balbona Inc.
10980 Wilshire Blvd.
Los Angeles, CA 90024
(213) 473-3555

Institutional projects continue to account for 90 percent of firm's billings, with the balance almost evenly split between commercial and industrial work. Reconstruction accounted for 60 percent of its billings during last fiscal year, compared to 50 percent in fiscal 1988. Firm expects revenues to remain the same this year. Current projects include a $9 million medical office building in Anaheim, Calif. *Joel A. Jaffe, Pres.*

Nearly three-quarters of the top 50 architects design government-related facilities.

47 (—) $7.50
Hardy Holzman Pfeiffer Associates
902 Broadway
New York, NY 10010
(212) 677-6030

Staff of 90 includes 40 registered architects. Firm also has an office in Los Angeles. It is known for a broad range of commercial and institutional projects with special emphasis on civic centers, academic facilities, museums and government buildings, among others. One-half of its work last year was government-related and 20 percent involved reconstruction. *Malcolm Holzman, Ptnr.*

41 (48) $7.99
Nix Mann Viehman Architects
1382 Peachtree St., N.E.
Atlanta, GA 30309
(404) 873-2552

Firm was formerly known as Nix Mann and Associates. Ninety-five percent of its work was institutional during calendar 1989 and commercial projects made up the balance. Sixty percent of work involved reconstruction. Recent projects include a wide variety of educational facilities with computer, audio-visual and teleconferencing technologies. *William C. Viehman, Pres.*

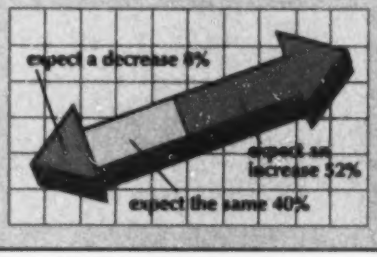
44 (—) $7.60
Weihe Partnership
1666 E. St., N.W.
Washington, DC 20006
(202) 857-8300

Staff of 100 includes 33 registered architects. Weihe places emphasis on the design of office buildings, hotels, mixed-use facilities and multi-family residences. Almost all work involves new construction. Commercial projects accounted for more than 90 percent of billings during last fiscal year. Recent projects include Largo Town Center, a 136,000-sq.-ft. office building in Largo, Md. *Marc Nathanson, Managing Ptnr.*

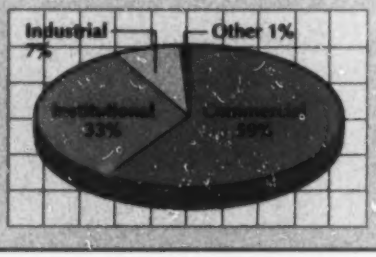
48 (—) $6.87
ADD Inc.
80 Prospect St.
Cambridge, MA 02139
(617) 661-0165

ADD's staff of 49 includes 24 registered architects. Firm emphasizes a variety of building types in the commercial sector including multi-building office parks and mixed-use developments. It is also known for urban renovation projects. Last year reconstruction comprised 15 percent of its billings. Firm also has a major office in Washington, D.C. *Wilson F. Pollock, Pres.*

What is the Architects' Outlook for Revenues in 1990?



Breakdown of the Architects' Billings



49 (47) $6.83
Vickrey/Ovresat/Awsumb Associates
435 N. Michigan Ave.
Chicago, IL 60611
(312) 644-3464

Staff of 130 includes 35 registered architects. VOA continues to specialize in corporate interiors and hotel and health care-related architecture. Nearly 50 percent of its work for fiscal 1989 involved reconstruction. Interiors accounted for 35 percent of its work. Firm expects revenues to climb by 11 percent this year. *Michael A. Toolis, Pres., Managing Prin.*

42 (46) $7.95
Lendrum Associates Architects + Planning
3033 N. 44th St.
Phoenix, AZ 85018
(602) 955-2100

Formerly known as Lendrum Associates Inc., firm remains known for its design of newspaper printing facilities, clean rooms for the semiconductor industry, manufacturing facilities, corporate offices and hotels. Industrial projects accounted for 60 percent of its billings during calendar 1989, while commercial projects accounted for the balance. Twenty percent of its work involved interiors. *Peter A. Lendrum, Pres.*

45 (31) $7.57
Taylor Clark Architects Inc.
149 Fifth Ave.
New York, NY 10010
(212) 460-8840

Billings estimated by *ED&C*. Firm is best-known for its design of health care facilities and is becoming more active with long-term care and AIDS-related projects. Forty percent of its work involved reconstruction last year. Recent projects include an AIDS Care Center for St. Clare's Hospital & Medical Center in New York City. *Richard C. Clark, Pres.*

50 (29) $6.78
The Grad Partnership
One Gateway Center
Newark, NJ 07102
(201) 621-1700

Grad is known for its design of office buildings, airline and correctional facilities, and for a wide array of services, including master planning, economic and site feasibility studies and interior architecture. Recently completed projects include Exchange Place Center, a $75 million, 30-story investment office building in Jersey City, N.J. *Howard Grad, CEO*

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ARCHITECT/ ENGINEERS

C.I.I. BILLINGS DECLINE BY 1 PERCENT IN 1989

Commercial projects represent a 9 percent smaller slice of the Architect/Engineers' total billings

1
(1)
$70.69

Skidmore, Owings & Merrill
33 W. Monroe
Chicago, IL 60603
(312) 641-5959

Billings estimated by *BD&C*. The staff increased by more than 200, but mainly due to growth in the London office, where half of the firm's largest projects are currently located. The firm's largest U.S. projects include the USG Building, Chicago, Chase-Metrotech, New York City, and Kaiser Permanente, San Francisco. Architectural services accounted for 65 percent of the firm's billings while engineering contributed the rest. *Thomas J. Eyerman, Ptnr.*

2
(2)
$69.56

Hellmuth, Obata & Kassabaum Inc.
1831 Chestnut St.
St. Louis, MO 63103
(314) 421-2000

International billings add $30 million to the figure listed above due to the firm's targeting of markets in the Western Pacific, Central Europe and Southeast Asia. Current U.S. projects include three corporate facilities for AT&T and medical facilities for Johns Hopkins University and the University of Alabama. Sports facilities accounted for more than 10 percent of the firm's billings. *Gyo Obata, Chmn., Pres.*

3
(3)
$60.73

Ellerbe Becket Inc.
One Appletree Square
Minneapolis, MN 55420
(612) 853-2000

A 10 percent increase in reconstruction work contributed to the firm's $5 million growth in 1989 revenues. Also contributing was a 7 percent increase in industrial billings. No industrial billings were reported last year. The firm is known for health care facilities, world trade centers and sports facilities. Projects include renovations of 10 buildings at the University of Notre Dame. *John C. Gaunt, Pres.*

4
(4)
$57.84

HKS Inc.
111 Plaza of the Americas
Dallas, TX 75201
(214) 969-5599

The firm increased its staff by 80 employees including more than 20 architects. Areas of specialty include health care, offices, multiuse buildings and hotels. Recent projects include a 914,000-sq.-ft. hospital in Laguna Hills, Calif., and the 1 million-sq.-ft. First Bank Place in Minneapolis. Other offices are located in Tampa and Los Angeles. *Ronald L. Skaggs, Chmn., CEO; C. Joe Buskuhl, Pres.*

5
(6)
$56.26

RTKL Associates Inc.
400 E. Pratt St.
Baltimore, MD 21202
(301) 528-8600

The firm added a London office and a landscape architecture studio last year. Reconstruction work increased by 5 percent to account for almost one-third of the firm's total billings. Current projects include a 400,000-sq.-ft. mixed-use development in Washington, D.C., and a 20-story high rise in West Palm Beach, Fla. *Harold L. Adams, Chmn.*

6
(7)
$36.86

Leo A. Daly
8600 Indian Hills Drive
Omaha, NE 68114
(402) 391-8111

Air transportation facilities, such as the $53 million concourse expansion at Seattle's airport, accounted for 15 percent of the firm's billings. The firm established N.D. Consultants as a Japan-based corporation in 1989 to supplement its international offices in Hong Kong, Madrid and Riyadh, Saudi Arabia. Other projects include the $30 million Contel Office Building in Fairfax, Va. *Leo A. Daly, Chmn., Pres.*

7
(5)
$35.50

HDR Inc.
8404 Indian Hills Drive
Omaha, NE 68114
(402) 399-1000

A new logo was introduced last year and the firm placed added emphasis on reconstruction and interior architecture. Justice facilities and health care, such as the $87 million St. Mary's at the Mayo Clinic, Rochester, Minn., are specialties of the firm, which employs 1,199. Other current projects include the $220 million Portsmouth Naval Hospital in Virginia. *Francis Jelensperger, Exec. VP*

8
(14)
$33.19

Perkins & Will
123 N. Wacker Drive
Chicago, IL 60606
(312) 977-1100

Russo + Sonder of New York City was merged into Perkins & Will's New York office. Government work accounted for 30 percent of the firm's billings. Current projects include corporate headquarters for Sears and Kraft, the 1 million-sq.-ft. O'Hare International Terminal in Chicago and the 344,000-sq.-ft. Hackensack Medical Center in New Jersey. *Hans P. Neumann, Chmn.*

9
(13)
$33.10

The Smith Group
455 W. Fort
Detroit, MI 48226
(313) 964-3000

With six affiliates throughout the country, the firm specializes in R&D facilities, laboratories, health care facilities, airports and industrial developments. Current projects include a $23.5 million biotechnology laboratory at the University of Illinois, Urbana, Ill., a 270,000-sq.-ft. R&D facility for BSF in Southfield, Mich., and a 503-bed VA hospital in Detroit. *Philip J. Meathe, Chmn.; Noel Fagerlund, Pres.*

10
(12)
$32.80

Hansen Lind Meyer Inc.
Plaza Center One
Iowa City, IA 52244
(319) 354-4700

New offices were opened in Baltimore and Denver and the firm increased its total number of employees by 50 to 468. Areas of expertise include health care, criminal justice, commercial offices and R&D facilities. Government projects accounted for 40 percent of firm's billings. Current projects include the $77 million Kansas State Prison, and a $78 million medical facility at Nellis AFB, Nevada. *James E. Zajac, Pres.*

Hellmuth, Obata & Kassabaum Inc. *generated 10 percent of its billings from sports facilities, such as the renovation of O'Donnell Stadium in Davenport, Iowa.*

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ARCHITECT/ ENGINEERS

11 (9) **$31.70**
Howard Needles Tammen & Bergendoff
P.O. Box 419299
Kansas City, MO 64141
(816) 333-4800

The HNTB architectural/engineering division specializes in the design of office buildings, sports facilities, convention centers, hotels, medical and airport facilities. Current projects include the expansion of Bartle Hall Convention Center in Kansas City, Mo., a proposed new arena in Anaheim, Calif., and a 1 million-sq.-ft. Indiana State Office Building. *William Love, Cary Goodman, Richard Farnan, Ptnrs.*

***Winning the competition to design** a National Institutes of Health research facility demonstrates the Kling-Lindquist Partnership's growth in R&D design.*

12 (11) **$30.80**
The Kling-Lindquist Partnership
2301 Chestnut St.
Philadelphia, PA 19103
(215) 569-2900

Recent market trends provided the firm with additional business in the areas of R&D facilities, federal prisons, strategic facility planning and the professional services sector. Current projects include the $80 million Life Sciences Building at Thomas Jefferson University in Philadelphia, the 53-story Bell Atlantic Tower, Philadelphia, and the $86 million National Institutes of Health, Bethesda, Md. *Fred Lindquist, Chmn., CEO*

13 (10) **$28.50**
Cannon
2710 Whitehaven Road
Grand Island, NY 14072
(716) 773-6800

This 406-person firm provides architecture, engineering, planning, program management and other services for a variety of markets including health care, corporate, educational and government. Reconstruction work increased 10 percent to account for 60 percent of billings in 1989. Current projects include a twin-tower office complex in Buffalo, N.Y., and the $55 million Boston Science Center. *John D. Cannon, Pres., CEO*

14 (15) **$25.60**
CUH2A
600 Alexander Road
CN-5240
Princeton, NJ 08543
(609) 452-1212

Industrial projects increased 10 percent to a total of 70 percent of the firm's billings. Commercial work fell by 10 percent to a total of 20 percent of billings. Representative projects include a 500,000-sq.-ft. R&D facility for Eli Lilly & Co., Indianapolis, a 300,000-sq.-ft. safety assembly lab in West Point, Penn., and the 200,000-sq.-ft. headquarters for BMW of North America in New Jersey. *Kurt M. Anderson, Pres.*

15 (17) **$21.50**
Albert Kahn Associates Inc.
7430 Second Ave.
Detroit, MI 48202
(313) 871-8500

The privately held, employee-owned firm provides architectural and full engineering services. Current projects include a $30 million, 131,000-sq.-ft. addition to a university building in East Lansing, Mich., a 300,000-sq.-ft. Administration Center in Indianapolis and a $22 million parking structure in Romulus, Mich. *E.E. Parks, Pres., CEO*

16 (21) **$21.35**
Sasaki Associates Inc.
64 Pleasant St.
Watertown, MA 02172
(617) 926-3300

The firm acquired POD Inc., a California-based landscape architecture and planning firm, and increased employees by 100 to a total of 385. Commercial buildings made up 25 percent of the firm's work and institutional buildings contributed 45 percent. Current projects include the $20 million Brandeis Athletic Facility, Waltham, Mass., and a $160 million GTE Telephone operations center in Irving, Texas. *James Sukeforth, Pres.*

17 (19) **$20.70**
Flad & Associates
6200 Mineral Point Road
Madison, WI 53705
(608) 238-2661

Winning two large projects, the $80 million American Family Insurance headquarters and a $25 million pharmaceutical lab, has allowed the Madison office staff to grow by 25 percent. Other offices are located in Gainesville, Fla., Charlotte, N.C., White Plains, N.Y., and Milwaukee. Other projects include the $11.5 million Diabetes Research Institute in Miami. *J.E. Biassick, J.W. Miller, R.H. Postweiler, Prins.*

18 (16) **$19.08**
Haines, Lundberg, Waehler (HLW)
115 Fifth Ave.
New York, NY 10003
(212) 353-4600

The firm is known for high-tech and corporate facilities design and engineering. Reconstruction work accounts for 26 percent of firm's billings. Recent projects include the $19 million headquarters for Jaguar Cars, Mahwah, N.J., a showroom for Mercedes-Benz in Manhattan and the 410,000-sq.-ft. Federal Reserve Bank, East Rutherford, N.J. *Martin D. Raab, Robert Djerejian, Theodore Hammer, Managing Ptnrs.*

19 (27) **$19.00**
Rosser Fabrap International
524 W. Peachtree St., N.E.
Atlanta, GA 30308
(404) 876-3800

This 300-employee firm also has offices in Tampa, Fla., Savannah, Ga., and San Bernardino, Calif. Criminal justice, sports and aviation facilities are among the firm's specialties. Government projects accounted for 52 percent of billings. Current projects include the West Valley Detention Center, San Bernardino, Calif., and a VA Hospital renovation in Decatur, Ga. *Paul Rosser, CEO; Edward Davidson, Pres., COO*

20 (8) **$16.86**
Hunter/RS&H
6737 Southpoint Drive S.
Jacksonville, FL 32216
(904) 739-2000

Management of RS&H, formerly known as Reynolds, Smith and Hills, signed a letter of intent with Hunter Environmental Services Inc. to buy back the architecture, engineering and planning operations by May 1990. Firm specializes in multiuse facilities, data centers, airports, transportation and aerospace projects. Government work accounted for 44 percent of the firm's billings while reconstruction made up 20 percent. *Leerie T. Jenkins Jr., Pres.*

21 (34) **$15.95**
GSGSB
Berens Building
P.O. Box 244
Clarks Summit, PA 18411
(717) 586-1761

Reconstruction projects accounted for 51 percent of the firm's billings. Projects include the $27 million expansion of the Hershey Medical Center, Hershey, Pa., and the renovation of a Macy's Department store in Cherry Hill, N.J. Data centers and educational facilities are also among the firm's specialties. *J. Gilboy, R. Stauffer, R. Giombetti, E. Bellante, Ptnrs.*

22 (30) **$15.60**
DLR Group
400 Essex Court
Regency Park
Omaha, NE 68114
(402) 393-4100

Branch offices were opened in Minneapolis and Colorado Springs, Colo. Government projects accounted for 70 percent of the firm's billings, reconstruction work contributed 15 percent and sports facilities made up 8 percent. Current projects include a $140 million federal corrections complex in Florence, Colo., and the $14 million Lee County Sports Facility, Fort Myers, Fla. *Dale Hallock, Bryce Pearsall, Prins.*

23 (24) **$15.54**
Anderson DeBartolo Pan Inc.
2480 N. Arcadia Ave.
Tucson, AZ 85712
(602) 795-4500

Institutional projects, including health care, R&D and educational facilities made up 50 percent of the firm's billings. Industrial work made up the majority of the rest. Current projects include a $32 million expansion of the National Center for Atmospheric Research, Boulder, Colo., and a $13 million research lab at Stanford University. *Richard Anderson, Jack DeBartolo, Solomon Pan, Ptnrs.*

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A marketing thrust toward overseas projects remains an important emphasis for many Architect/Engineers.

24 (26) $15.45
Spillis Candela & Partners Inc.
800 Douglas Entrance
Coral Gables, FL 33134
(305) 444-4691

Jacksonville, Fla., is the site of the firm's fifth office, which opened last year. Staff now totals 229 employees including 42 registered architects and 18 registered engineers. Reconstruction and government projects each accounted for 35 percent of the firm's billings. Current projects include a 400,000-sq.-ft. headquarters for the AAA in Orlando, and a 225,000-sq.-ft. courthouse in Alexandria, Va. *Peter J. Spillis, CEO*

25 (36) $15.39
Odell Associates
129 W. Trade St.
Charlotte, NC 28202
(704) 377-5941

The firm specializes in corporate, mixed-use, airport, R&D, health care, sports and educational projects. Other offices of this 249-person firm are located in Greenville, S.C., Richmond, Va., and Tampa, Fla. Current projects include a $38 million North Carolina State University research center in Raleigh, N.C., and a $25 million EPA lab in Research Triangle Park, N.C. *Benjamin T. Rook, Chmn., CEO*

26 (22) $15.10
Burt Hill Kosar Rittelmann Associates
125 S. Ninth St.
Philadelphia, PA 19107
(412) 285-4761

This 253-person firm also has offices in Pittsburgh, Washington, D.C., Fort Myers, Fla., and Butler, Pa. Historic restoration, health care and education projects are among firm's specialties. Reconstruction accounted for 50 percent of the firm's billings. Current projects include the renovation of the 1.8 million-sq.-ft. Wanamaker Building, Philadelphia, and a $14.5 million hospital in Fort Myers, Fla. *John Kosar, Pres.*

27 (28) $14.79
Hammel Green and Abrahamson Inc.
1201 Harmon Place
Minneapolis, MN 55403
(612) 332-3944

The firm specializes in educational, medical and high-tech office facilities. Current projects include a $26 million biotech/genetics lab at the University of Wisconsin, Madison, the $15 million United/Children's Hospital, St. Paul, Minn., and a $35 million post office expansion in Minneapolis. The firm also has an office in Milwaukee. *Kurt Rogness, CEO; Roger Santelman, COO*

28 (18) $14.00
Ewing Cole Cherry Parsky
Federal Reserve Bank Bldg.
100 N. 6th St.
Philadelphia, PA 19106
(215) 923-2020

The firm specializes in academic, health care, R&D and sports projects. Staff of 192 includes 53 registered architects and 19 registered engineers. Current projects include the $12.5 million Center for Molecular and Behavioral Neuroscience, Newark, N.J., and the $87 million Philadelphia International Airport expansion. *Robert M. Parsky, Pres., CEO*

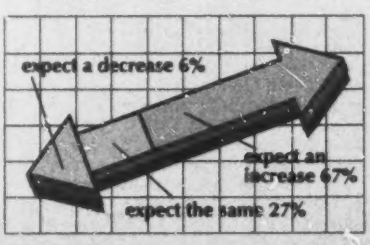
29 (23) $13.39
Gresham, Smith and Partners
3310 West End Ave.
Nashville, TN 37203
(616) 385-3310

The firm opened an office in Jacksonville, Fla., in addition to its other offices in Birmingham and Huntsville, Ala. Institutional projects, such as health care centers and judicial buildings, accounted for 50 percent of firm's billings. Current projects include the $34 million Alabama Judicial Building in Montgomery, and a $60 million renovation and expansion of the VA Center, Washington, D.C. *Gary F. Hunt, COO*

30 (25) $13.19
Albert C. Martin & Associates
881 W. 7th St.
Los Angeles, CA 90017
(213) 683-1900

With a total of 192 employees, staff includes 34 registered architects and 41 registered structural, mechanical and electrical engineers. Commercial projects accounted for 40 percent of firm's billings, while institutional projects made up 24 percent and industrial work contributed 20 percent. The firm also has an office in Irvine, Calif. *David C. Martin, Chistopher C. Martin, Ptnrs.*

What is the Architect/Engineers' Outlook for Revenues in 1990?



31 (31) $13.08
Harley Ellington Pearce Yee Associates
26913 Northwestern Hwy.
Southfield, MI 48086
(313) 262-1500

Health care and technologically oriented building projects are the main focus of this 190-employee firm. Through affiliates in Denver, Los Angeles, Orlando and Windsor, Ontario, the firm provides full-service architectural and engineering expertise. Reconstruction work accounted for 35 percent of the firm's billings and government projects contributed 10 percent. *Ralph Pierce, Pres.*

32 (20) $11.43
Everett I. Brown Co.
950 N. Meridian
Indianapolis, IN 46204
(317) 237-7000

Reconstruction and government projects make up the majority of this privately held firm's billings. Current projects include the $10 million Westville Prison, Westville, Ind., the $30 million headquarters for USA Funds, Indianapolis, a $30 million renovation of Lawrence Central High School, Indianapolis, and the renovation of Eli Lilly Co.'s Indianapolis computer center. *Joseph S. Brown, Managing Ptnr.*

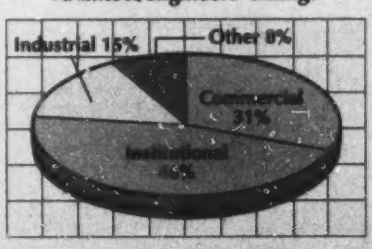
33 (43) $11.27
Vitetta Group
The Wallace Building
642 N. Broad St.
Philadelphia, PA 19130
(215) 235-3500

This 148-person, privately held firm recently restructured its management to create a professional corporation. The firm specializes in educational, health care, justice and commercial facilities. Government projects accounted for 50 percent of the firm's billings. Current projects include a $45 million federal prison in Fairton, N.J., and a new $30 million elementary school in Hamilton, N.J. *Francis G. Vitetta, Pres.*

34 (37) $10.54
Page Southerland Page
P.O. Box 2004
Austin, TX 78768
(512) 472-6721

With branch offices located in Dallas and Houston, the firm has 174 employees, 20 more than reported last year. The firm specializes in health care and educational projects. Government work accounted for 30 percent of firm's billings. Current projects include the Still Army Hospital, Fort Still, Okla., and the $69 million Austin Convention Center in Texas. *Jay Willmann, James Wright, Acree Carlisle, Matthew Kreisle III, Prins.*

Breakdown of the Architect/Engineers' Billings



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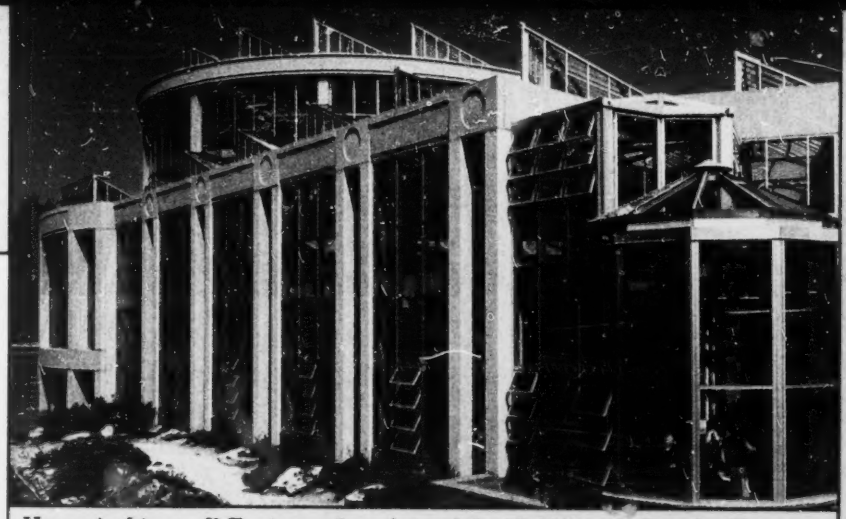
ARCHITECT/ ENGINEERS



Heery Architects & Engineers Inc. designed the 23,000-sq.-ft. Dorothy Chapman Fuqua Conservatory, Atlanta. Photo: Timothy Hursley

35 (35) **$10.50**
Setter, Leach & Lindstrom Inc.
1011 Nicollet Mall
Minneapolis, MN 55403
(612) 338-8741

Three new positions — executive vice president, director of architecture and director of engineering — were established to help manage the firm more effectively. The firm of 148 employees includes 29 registered architects and 31 engineers. Reconstruction work accounted for 25 percent of the firm's billings and government projects made up 20 percent. *Richard Vasatka, Pres.*

36 (42) **$10.35**
The Ballinger Co.
Independent Square West
Philadelphia, PA 19103
(215) 592-0900

The firm is known for design of R&D labs and pilot plants, health care facilities and commercial buildings. Reconstruction work accounted for 60 percent of the firm's billings. The 140-person staff includes 32 registered architects and six registered engineers. Current projects include the 300,000-sq.-ft. Hershey Foods headquarters in Hershey, Pa., and a 700,000-sq.-ft. R&D/manufacturing facility for Ford Electronics. *W.R. Gustafson, Pres.*

37 (44) **$10.31**
3D/International
1900 West Loop South
Houston, TX 77027
(713) 871-7000

The U.S. billings reported above for C.I.I. construction projects represent less than one-half of the firm's total international revenues. With eight U.S. and four international offices, the firm employs a total of 265, of which 70 are either registered architects or engineers. The firm is best-known for work involving schools, government buildings, hospitals, prisons and office buildings. *J. Victor Neuhaus, CEO; Charles B. Thomsen, COO*

38 (32) **$9.65**
Heery Architects & Engineers Inc.
999 Peachtree St., N.E.
Atlanta, GA 30367
(404) 881-9880

Areas of specialty include commercial buildings, health care and sports facilities. Offices are also located in San Francisco and London. The firm has a total of 183 employees. International projects generated another $3 million in billings in addition to those listed above. Government projects accounted for 23 percent of total billings. *Joseph M. Harris, Pres; James J. Moynihan, CEO*

39 (53) **$9.50**
Phillips Swager Associates Inc.
3622 N. Knoxville
Peoria, IL 61603
(309) 688-9511

The firm is known as a consultant in the fields of security planning and criminal justice facility programming. Marketing emphasis is focused on county, state and federal detention facilities and courts. Reconstruction work accounted for 35 percent of the firm's billings. Recent projects include a $16.3 million Medical Office Building in Peoria, Ill., and an $11 million high school renovation in Aurora, Ill. *Eugene C. Swager, Pres.*

40 (48) **$9.18**
Einhorn Yaffee Prescott
Broadway at Beaver
Albany, NY 12207
(518) 463-2141

The firm acquired the Washington, D.C., firm of Kemnitzer Reid & Haffler. The staff totals 150, including 34 at the Washington office. The firm is marketing integrated engineering and interior architecture services. Reconstruction accounted for 70 percent of firm's billings and government projects made up 55 percent. *Steven Einhorn, Pres.; Eric Yaffee, Andrew Prescott, VPs*

41 (47) **$8.82**
O'Brien/Atkins Associates
P.O. Box 12037
Research Triangle, NC 27709
(919) 941-9000

The firm provides architectural and mechanical/electrical engineering services to regional clients. Government projects accounted for 50 percent of the firm's activities. Projects include the $44 million Wake County Public Safety Center, Raleigh, N.C., and a $15 million conference center in Asheboro, N.C. *William L. O'Brien, Chmn., CEO; John L. Atkins, Pres.*

42 (46) **$8.70**
Holabird & Root
300 W. Adams St.
Chicago, IL 60606
(312) 726-5960

The firm opened a new office in Rochester, Minn., and increased staff by more than 15 percent in 1989. Specialties include data processing centers, laboratories and educational facilities. Current projects include a new 260,000-sq.-ft. law school in Chicago, and a 600,000-sq.-ft. data center and offices for US West Communications, Omaha, Neb. *Jeff Case, Gerald Horn, Roy Solfisburg, Ptnrs.*

43 (45) **$8.47**
HTB Inc.
900 N. Stiles Ave.
Oklahoma City, OK 73104
(405) 239-4700

The firm moved into a new headquarters building it designed. Facility management services were added and interior design and space planning services were expanded in 1989. The firm is known for aviation, educational, municipal and commercial projects. Industrial work accounted for 11 percent of the firm's billings. Projects included a new terminal at San Jose International airport. *Rex M. Ball, Chmn., CEO; P.G. Wilson Jr., Exec. VP*

44 (—) **$8.15**
O'Donnell Wicklund Pigozzi & Peterson
570 Lake Cook Road
Deerfield, IL 60015
(708) 940-9600

This employee-owned firm expanded its programming, predesign and site planning services last year. Specialties include health and gerontological care, education, government and transportation facilities. Reconstruction projects accounted for 60 percent of firm's activity. Projects include a new $5.5 million elementary school in Hoffman Estates, Ill. *Leonard A. Peterson, Pres.*

45 (54) **$7.30**
KZF Inc.
655 Eden Park Drive
Cincinnati, OH 45202
(513) 621-6211

The firm is organized into eight market-specific divisions: commercial development, corporate/institutional, technical facilities, health care, leisure/entertainment, federal, interiors and civil engineering. Government activity accounted for 28 percent of the firm's work. Projects include the $29 million Wright State University Arena, Dayton, Ohio. *Frederic C. Weckel, Pres., CEO; Gregory K. Rhoads, Exec. VP, COO*

46 (40) **$7.21**
Russell Gibson von Dohlen
281 Farmington Ave.
Box H
Farmington, CT 06032
(203) 677-8556

Marketing strategies include pursuit of European work and an emphasis on R&D, health care and government projects. Current projects include a $150 million high rise in Hartford, Conn., a $27 million juvenile detention school in Middletown, Conn., and the $13 million Roosevelt Middle School, New Britain, Conn. *Robert von Dohlen, Chmn.*

47 (58) **$7.15**
Fred H. Thomas Associates PC
2560 N. Triphammer Road
Ithaca, NY 14850
(607) 257-1300

The firm specializes in design of educational facilities and has seen an increased emphasis on new schools as opposed to renovations and additions. Activity is 100 percent institutional. Forty percent of activity involved reconstruction work, 20 percent less than last year. Projects include a $22 million high school in Canandaigua, N.Y., and a $12 million elementary school in Shenendehowa, N.Y. *Fred H. Thomas, Pres.*

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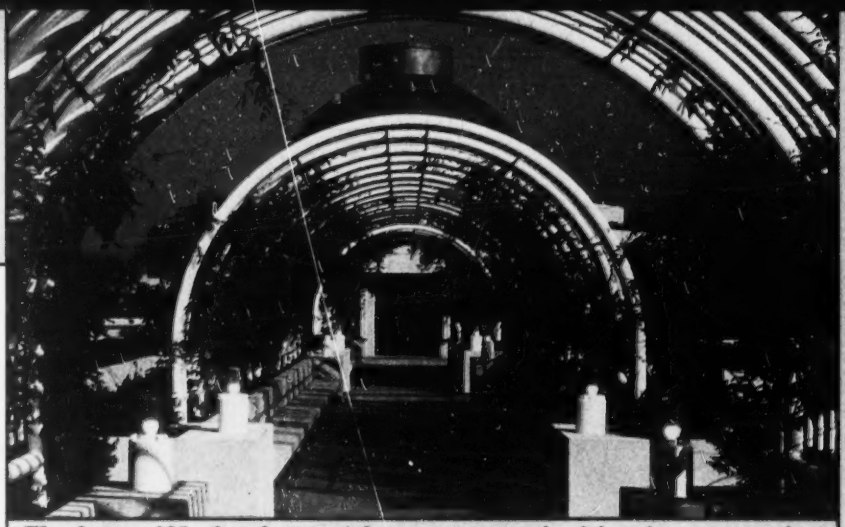
ARCHITECT/ ENGINEERS



The design of Northpark 500, Atlanta, is an example of the urban commercial projects executed by John Portman & Associates. Photo: Michael Portman

48 (—) **$7.09**
Falick/Klein Partnership Inc.
5847 San Felipe
Houston, TX 77057
(713) 782-9000

The firm is a new addition to the list this year. Branch offices are located in Irvine and Oakland, Calif. The staff totals 72 employees, including 23 registered architects and eight registered engineers. Specialties include health care and hospitality. Work consists of 25 percent commercial projects and 75 percent institutional projects. *James Falick, Pres., CEO*

49 (49) **$7.00**
Ellis/Naeyaert/ Genheimer Associates Inc.
3290 W. Big Beaver Road
Troy, MI 48084
(313) 649-2000

This 126-person firm's specialties include research laboratories, computer facilities, health care and corporate projects. Reconstruction work accounted for 5 percent of activities and government projects made up 17 percent. Projects include a $13 million Physical Activities Building, Greensboro, N.C., and a $35 million office and corporate learning center, Portage, Mich. *J. Edward Genheimer, Pres., CEO*

50 (57) **$6.85**
Boyd/Sobieray Associates Inc.
6819 N. Shadeland Ave.
Indianapolis, IN 46220
(317) 849-7878

The firm focuses all planning and design efforts on health care and scientific markets. A 15 percent increase in billings in 1990 is projected. Government projects accounted for 28 percent of activity in 1989. Current projects include a $17.8 million addition to Memorial Medical Center, Springfield, Ill., and the $28 million Community Hospital, Indianapolis, Ind. *Donald B. Altmeyer, Pres.*

51 (51) **$6.84**
Fletcher-Thompson Inc.
Two World Trade Plaza
Bridgeport, CT 06604
(203) 366-5441

The firm's emphasis is on educational and justice markets. International billings, not reported above, exceed $3 million. Government work accounted for 40 percent of the firm's activities and reconstruction projects accounted for 20 percent. Projects include a $72 million medium-security facility in Suffield, Conn., and a $9.8 million renovation of the Schaghticoke Middle School, New Milford, Conn. *John G. Phelan, Pres.*

52 (56) **$6.83**
Lorenz & Williams Inc.
120 W. Third St.
Dayton, OH 45402
(513) 223-6500

With branch offices located in Cincinnati and Columbus, Ohio, staff totals 109 employees. The firm specializes in medical, criminal justice, corporate and military projects. Government projects accounted for 15 percent of work and reconstruction made up 30 percent. Recent projects include the $20 million Citizens Federal Centre and the $13 million Victoria Theatre, both in Dayton, Ohio. *A. Notley Alford, CEO*

53 (55) **$6.60**
BSHA Inc.
1875 Third Ave.
San Diego, CA 92101
(619) 239-2353

Specialties include commercial towers, high-tech/ laboratory facilities, mixed-use urban developments, sports facilities and light industrial projects. Current projects include the $40 million mixed-use Park West Plaza, San Diego, the 215,000-sq.-ft. XIMED Medical Office Building, La Jolla, Calif., and a $37 million addition to the University of California at San Diego Library. *Gordon R. Carrier, Pres.*

54 (—) **$6.50**
Sargent Webster Crenshaw & Folley
2112 Erie Blvd. East
Syracuse, NY 13224
(315) 472-3361

The firm is a new listing this year. Institutional facilities, such as health care and educational buildings, accounted for 70 percent of the firm's billings. Commercial and industrial projects each contributed 15 percent. Current projects include a $21 million Center for Advanced Materials Processing at Clarkson University, Potsdam, N.Y., and a 160,000-sq.-ft. school in Central Square, N.Y. *Edwin B. Bruce, Managing Ptnr.*

55 (29) **$6.21**
John Portman & Associates
231 Peachtree St. N.E.
Atlanta, GA 30303
(404) 522-8811

In addition to the billings listed above, the firm provided $3 million of services for international projects. Commercial work made up 100 percent of the firm's billings and no reconstruction or government projects were reported. The staff of 95 includes 31 registered architects and eight registered engineers. *John Portman Jr., Pres.*

56 (60) **$6.20**
Fanning/Howey Associates Inc.
540 E. Market
Celina, OH 45822
(419) 586-7771

Branch offices are located in Michigan City, Ind., Indianapolis, Columbus, Ohio, and West Palm Beach, Fla. The firm employs a total of 98 people. The firm focuses on educational facility design and planning. Current projects include two $5 million elementary schools in Indiana and a $16 million high school in Dublin, Ohio. *Ronald H. Fanning, Pres.; Clair E. Howey, VP*

57 (—) **$6.19**
Sherertz, Franklin, Crawford, Shaffner
14 W. Kirk Ave.
Roanoke, VA 24011
(703) 344-7774

This privately held firm employs 84, including 24 registered architects and 15 registered engineers. Reconstruction work accounted for 35 percent of the firm's activity, while government projects made up 15 percent. Current projects include a $10 million addition to a skilled nursing facility in Wilkes-Barre, Pa., and the Colonnades Life Care Community for Marriott in Charlottesville, Va. *Patrick N. Schaffner, Pres.*

58 (33) **$6.18**
TRA
215 Columbia
Seattle, WA 98104
(206) 682-1133

With offices in Anchorage, Boston and Denver, the firm employs 180, including 42 registered architects and 15 registered engineers. Government projects accounted for 50 percent of the firm's activity in 1989. Current projects include a $22 million ferry terminal in Seattle, a $16 million medical school at the University of Washington in Seattle and the $48 million convention center in Providence, R.I. *Alan Moses, Ptnr.*

59 (41) **$6.00**
Neptune-Thomas-Davis
1550 W. Colorado Blvd.
Pasadena, CA 91105
(213) 255-1401

In 1989 Neptune & Thomas Associates merged with Davis-Duhaime Associates to form Neptune-Thomas-Davis. Offices are also located in San Diego and Corona, Calif. Staff numbers 101, including 34 registered architects. Recent projects include the $30 million addition to the University of California at San Diego Medical Center, and a California State University student center expansion in Fullerton. *Anthony O'Keefe, Pres.*

60 (—) **$5.61**
Quinlivan Pierik & Krause, Architects/Engineers
101 E. Water St.
Syracuse, NY 13202
(315) 472-7806

The firm is a new addition to the list this year. The firm is known for interior design and planning for commercial and institutional work for clients such as Cornell University, West Point and Rochester Telephone Co. Projects include the $13 million Marley Nursing Education Center, Syracuse, N.Y. *Alfred F. Krause, John D. Quinlivan, Ptnrs.*

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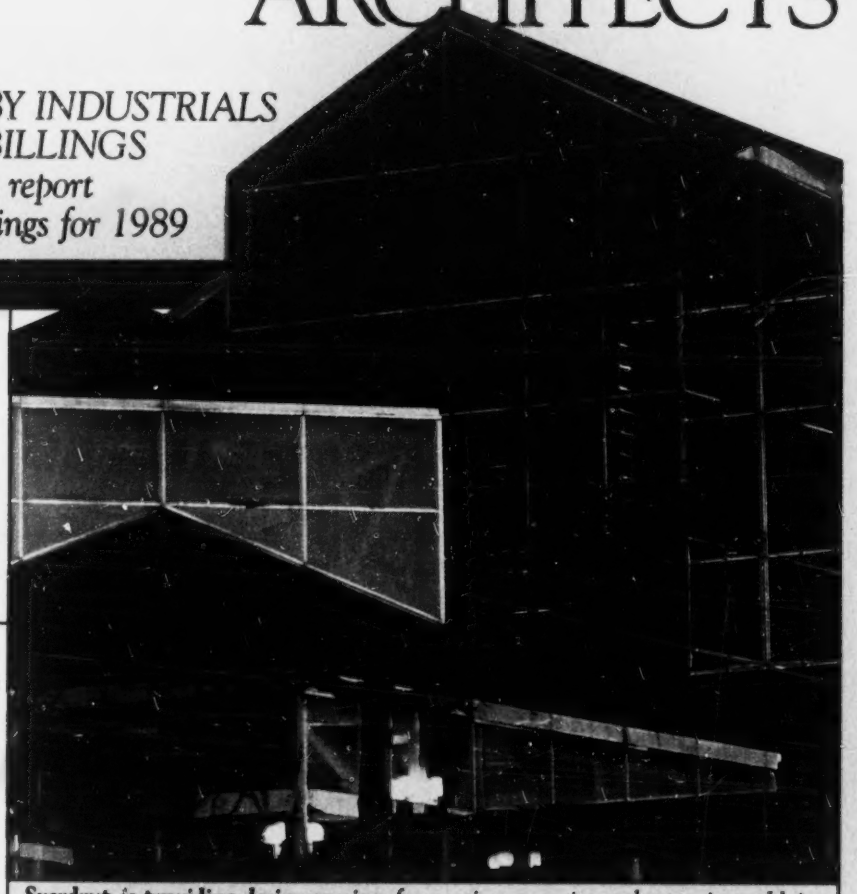
ENGINEER/ ARCHITECTS

HEALTHY SPENDING BY INDUSTRIALS GENERATES HIGHER BILLINGS

The 50 Engineer/Architects report a 30 percent increase in billings for 1989



Sverdrup is providing design services for a major renovation and expansion at Union Electric Co.'s corporate headquarters in St. Louis.

1
(1)
$393.31

CRSS Inc.
1177 West Loop South
Houston, TX 77027
(713) 552-2000

In addition to its Houston headquarters, this publicly held firm has major offices in Denver, New York City, Greenville, S.C., Irvine, Calif., and Washington, D.C. In the C.I.I. arena the firm is best-known for educational, correctional, pulp and paper, manufacturing and R&D facilities. Total staff numbers 3,100. The corporation's former name was CRS Sirrine Inc. *Bruce W. Wilkinson, Pres., CEO*

2
(2)
$197.64

Sverdrup Corp.
13723 Riverport Drive
Maryland Heights, MO 63043
(314) 436-7600

This employee-owned firm has a staff numbering 5,136. Industrial projects accounted for 68 percent of the firm's C.I.I. work. During the past year the firm moved its headquarters to Riverport, a 500-acre, mixed-use business community in Maryland Heights, Mo., which is being developed as a joint venture by Sverdrup and McDonnell Douglas Realty. *B.R. Smith Jr., Chmn., CEO*

3
(4)
$135.00

Lockwood Greene Engineers Inc.
P.O. Box 491
Spartanburg, SC 29304
(803) 578-2000

Reconstruction accounted for 45 percent of the firm's work. In the past year this privately held firm opened a new office with LG Scott Associates in San Juan, Puorto Rico. Lockwood Greene is best-known for serving clients in the food and beverage, pharmaceutical, microelectronics, chemical, manufacturing, aerospace and defense, and printing and publishing industries. *Donald R. Luger, Chmn., CEO*

4
(10)
$122.00

Belcan Corp.
10200 Anderson Way
Cincinnati, OH 45242
(513) 891-0972

Belcan is best-known for facilities for the pharmaceutical, food, pulp and paper, and high-tech industries. The staff of this privately held firm numbers 2,500. In addition to its Cincinnati headquarters, the firm operates major offices in St. Louis, Cleveland, Indianapolis, Pittsburgh and Modesto, Calif. *Ralph G. Anderson, CEO; J.J. Suarez, Pres.*

5
(3)
$112.42

Holmes & Narver Inc.
999 Town & Country Road
Orange, CA 92688
(714) 567-2400

Major branch offices are located in Honolulu, Boston, Las Vegas, Albuquerque and Washington, D.C. The firm has recently refocused its marketing emphasis to include prisons. Reconstruction accounted for 70 percent of the firm's work, while public projects accounted for 45 percent. *Forrest C. Six, Pres.*

6
(5)
$96.80

Daniel, Mann, Johnson & Mendenhall (DMJM)
3250 Wilshire Blvd.
Los Angeles, CA 90010
(213) 381-3663

Projects completed in 1989 include Filmore Center, a $130 million mixed-use project in San Francisco; Renaissance Tower, a $66 million office building in Sacramento; an outpatient care facility in Los Angeles for UCLA; and a 1,500-room Marriott Hotel in San Francisco. The firm reported total revenues of $186 million for the fiscal year ended Sept. 30, 1989. *M. Paul Brott, Pres.*

7
(6)
$62.40

Day & Zimmermann Inc.
1818 Market St.
Philadelphia, PA 19103
(215) 299-8000

This privately held firm is best-known for biotechnology, pharmaceutical, semiconductor and food processing facilities as well as school projects. Current projects include a bakery for Pepperidge Farm in Downington, Pa.; a toner manufacturing plant for Xerox in Webster, N.Y.; and school renovations in Coatesville, Pa. Day & Zimmermann reported total revenues of $520 million for calendar 1989. *H.L. Yoh Jr., Chmn.*

8
(7)
$49.40

A. Epstein and Sons International Inc.
600 Fulton St.
Chicago, IL 60606
(312) 454-9100

During the past year the firm formed a new overseas subsidiary, Epstein Technology Ltd., which is based in London. The firm reported total revenues of $58 million for calendar 1989, of which 13 percent was derived from projects outside the U.S. *Melvin Kupperman, Pres.; Sidney Epstein, Chmn.*

ENGINEER/ ARCHITECTS

9 (8) **$44.80**

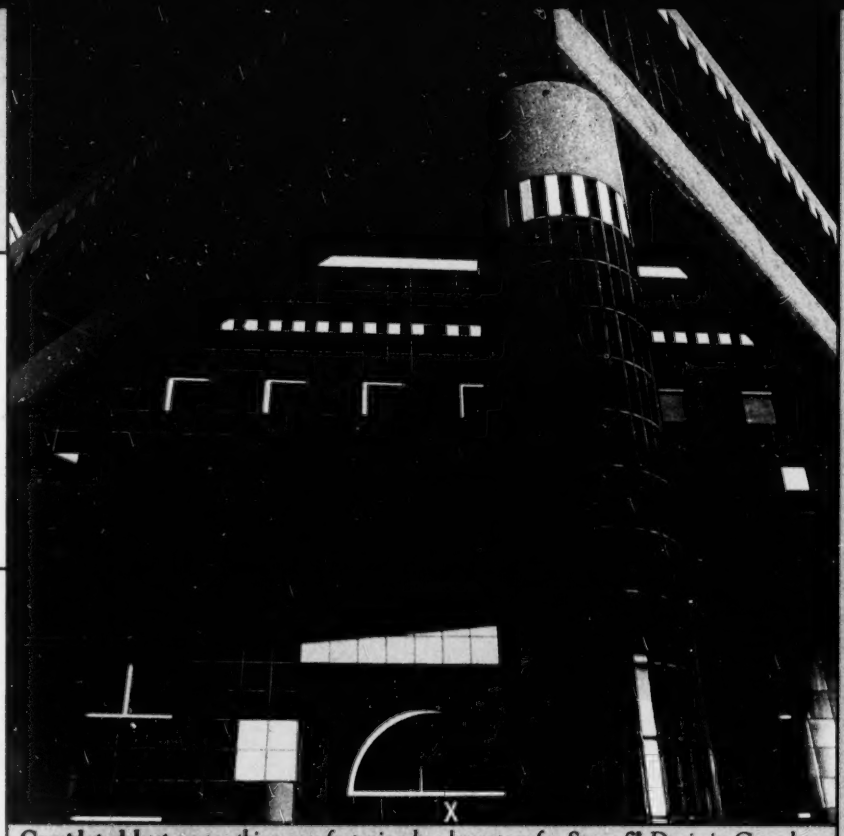
Chas. T. Main Inc.
Prudential Center
Boston, MA 02199
(617) 262-3200

This employee-owned firm has a staff numbering 1,307. Current projects include a total of five newspaper production plants. Total revenues for calendar 1989 were $120 million; 60 percent of the firm's work involved non-C.I.I. projects, which include utility plants, waste treatment, environmental and hazardous waste. *James T. Callahan, Pres.*

10 (13) **$44.50**

URS Consultants Inc.
One Penn Plaza, Suite 610
New York, NY 10119
(212) 736-4444

Institutional facilities (hospitals, research facilities, labs, prisons, schools) represented the largest share (30 percent) of this firm's work, followed by corporate and commercial facilities (15 percent), and industrial facilities (5 percent). Total revenues reported by the firm for calendar 1989 were $105 million. *Irwin L. Rosenstein, Pres.*



Completed last year, this manufacturing headquarters for Stow & Davis in Grand Rapids, Mich., was designed by Greiner Engineering. Photo courtesy of Greiner

11 (11) **$43.24**

Dewberry & Davis
8401 Arlington Blvd.
Fairfax, VA 22031
(703) 849-0100

Commercial buildings accounted for 30 percent of billings, institutional for 10 percent and industrial for 7 percent. Total revenues reported by the firm for calendar 1989 were $102 million. Staff numbers 1,595. During the past year the firm formed a new group, Renovation and Rehabilitation, within its Architecture division. *Sidney O. Dewberry, Managing Ptnr.; Barry K. Dewberry, General Ptnr.*

12 (9) **$42.30**

SSOE Inc.
1001 Madison Avenue
Toledo, OH 43624
(419) 255-3830

This privately held firm is best-known for industrial, automotive, health care and educational facilities. Industrial projects accounted for 70 percent of the firm's billings in calendar 1989. In addition to its headquarters in Toledo, the firm has major offices in Flint, Mich., and Nashville. Staff numbers 647. *Francis L. McAuliffe Jr., CEO, Pres., Chmn.*

13 (15) **$35.52**

Giffels Associates Inc.
P.O. Box 5025
Southfield, MI 48086-5025
(313) 355-4600

Giffels is best-known for manufacturing and R&D centers. The firm markets a full range of E/A services including clean room and industrial engineering specialties. Current projects include regional correctional facilities in various locations for the state of Michigan; the Chrysler Technology Center in Auburn Hills, Mich.; and a Ford truck assembly plant in Avon Lake, Ohio. *Vural Uygur, Chmn., Pres.*

14 (12) **$33.58**

STV Engineers Inc.
11 Robinson St.
Pottstown, PA 19464
(215) 326-4600

This publicly held firm encompasses STV Engineers, STV/Lyon Associates (E/A/P), STV/H.D. Nottingham (E/A/P), STV/Sanders & Thomas (E/A/P) and STV/Seelye Stevenson Value & Knecht (E/P). Total revenues reported by the firm were $75 million for the fiscal year ended Sept. 30, 1989. *Richard L. Holland, Chmn., CEO; Michael Haratunian, Pres., COO*

15 (17) **$25.62**

Greiner Engineering Inc.
909 E. Las Colinas Blvd.
Suite 1900, LB-44
Irving, TX 75039
(214) 869-1001

Greiner is best-known for educational, health care, commercial and industrial buildings as well as infrastructure. Current projects include a new manufacturing facility for Steelcase in Kentwood, Mich., and an addition for a nursing center in Grand Rapids, Mich. The publicly held firm reported total revenues of $91 million for calendar 1989. *Frank T. Callahan, Pres., CEO*

16 (16) **$25.06**

The Benham Group
9400 N. Broadway
Oklahoma City, OK 73156
(405) 478-5353

This privately held firm has a staff of 492. In addition to its Oklahoma City headquarters, the firm has major offices in Tulsa, St. Louis, Detroit, Dallas, San Antonio, Phoenix, Vienna, Va., and San Jose, Calif. Among projects under way are a medium-security prison in Hinton, Okla., an office building in Oklahoma City and the Opryland Theme Park in San Antonio. *David B. Benham, CEO*

17 (30) **$22.50**

Burns & McDonnell
4800 E. 63rd St.
P.O. Box 419173
Kansas City, MO 64141
(816) 333-4375

Projects under way include an avionics test facility in St. Louis, an electrogalvanizing line for Armco Steel in Middletown, Ohio, and an airport expansion program at Southwest Regional Airport in Fort Myers, Fla. The firm recently opened a new branch office in St. Louis. Staff numbers 861. *Newton A. Campbell, Chmn.; Dave G. Ruf Jr., Pres.*

18 (18) **$22.40**

Lester B. Knight & Associates Inc.
549 W. Randolph St.
Chicago, IL 60606
(312) 346-2100

The firm is best-known for high-tech and R&D facilities, industrial and manufacturing processes and construction for the military. During the past year the firm underwent a reorganization into a holding company with two subsidiaries: Knight Architects Engineers Planners and Knight Facilities Management. Of total revenues of $54.5 million, nearly one-half involved projects overseas. *DeForest P. Davis, Pres., CEO*

19 (14) **$21.67**

Black & Veatch
1500 Meadow Lake Parkway
Kansas City, MO 64114
(913) 339-2000

Total revenues for calendar 1989 were $216 million, of which 10 percent involved C.I.I. projects. During 1989 Black & Veatch Architects, a subsidiary, acquired Horner/Blessing Associates, a Kansas City-based firm with capabilities in interior and computer facility design. Black & Veatch is a privately held firm. *John H. Robinson, Managing Ptnr.*

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20
(20)
$16.12

Mason & Hangar-Silas Mason Co. Inc.
2355 Harrodsburg Road
Lexington, KY 40504
(606) 223-2277

This employee-owned firm is best-known for security facilities, weapons and explosives processing, ammunition plants and blast-resistant structures. Projects for the government accounted for 92 percent of the firm's work. *Dwight E. Heffelbower, Pres.*

21
(23)
$16.10

The Sigel Group
Sabine & Essex Avenues
Narberth, PA 19072
(215) 839-3200

The firm's emphasis is on facilities for the pharmaceutical and electronics industries, R&D buildings, university and corporate labs, and media and studio facilities. Projects under way include a chemistry building for the University of Delaware, a facility in Puerto Rico for Bristol-Myers and a 375,000-sq.-ft. office and manufacturing complex for Du Pont's Electronic Imaging Division in Newark, Del. *John K. Henderson, Chmn.; G. William Leishear, Pres.*

22
(25)
$15.71

Hayes, Seay, Mattern & Mattern Inc.
P.O. Box 13446
Roanoke, VA 24034
(703) 857-3100

This privately held firm is best-known for labs, industrial plants, explosive facilities, health care facilities, parking structures and communications projects. Renovation accounted for 60 percent of the firm's work in calendar 1989. Total staff numbers 354. During the past year the firm acquired the Harwood Beebe Co., an A/E/P firm headquartered in Spartanburg, S.C. *H. Boyd Dickenson, CEO; T. Howard Noel, Pres.*

23
(24)
$15.18

Wiss, Janney, Elstner Associates Inc.
330 Pfingsten Road
Northbrook, IL 60062
(708) 272-7400

Wiss, Janney, Elstner specializes in investigation, analysis and design services for historic and new buildings. Reconstruction projects accounted for 70 percent of the firm's work in calendar 1989. This employee-owned firm was previously a subsidiary of USG Corp. Staff of 205 includes 13 registered architects and 60 registered structural engineers. *John M. Hanson, Pres.*

24
(44)
$14.07

Bennett-Ringrose-Wolsfeld-Jarvis-Gardner Inc.
700 Third St. South
Minneapolis, MN 55415
(612) 370-0700

This firm incorporates BRW Inc., which provides urban design, planning, transportation and civil engineering services, and BRW Architects, which provides architectural services. During the past year the firm opened a new office in San Diego and expanded its office in St. Petersburg, Fla. *David J. Bennett, Pres., BRW Architects; Donald Hunt, Pres., BRW Inc.*

25
(28)
$13.77

Ghafari Associates Inc.
14147 Farmington Road
Livonia, MI 48154
(313) 421-3900

During the past year the firm acquired Benjamin Woodhouse & Guenther Inc., Dearborn, Mich., which is now an operating division of Ghafari. The firm is privately held and has a staff of 207. A branch office is located in Indianapolis. Best-known for plant engineering, additions, renovations and facility management. *Yousif B. Ghafari, Pres.*

26
(20)
$13.57

Gee & Jensen Inc.
P.O. Box 24600
West Palm Beach, FL 33416
(407) 683-3301

Gee & Jensen's marketing emphasis is on institutional, industrial and waterfront-related structures. Total revenues for calendar 1989 were $23 million. Public projects accounted for 45 percent of the firm's work. Among current Florida projects are an outpatient surgical clinic in Jacksonville, a public library in DeLand and a newspaper distribution center in Lake Worth. *Fred A. Greene, Chmn., CEO; Richard M. Miller, Pres.*

27
(—)
$13.09

Fru-Con Engineering Inc.
P.O. Box 100
Ballwin, MO 63022-0100
(314) 391-6700

The parent firm of Fru-Con Engineering is Fru-Con Construction Corp. Projects under way include a lab in Cape Girardeau, Mo., for Procter & Gamble, and manufacturing facilities for Monsanto and Sherex. This privately held firm has a staff of 250. *Stephen L. Drawe, Pres.*

28
(27)
$12.50

Lev Zetlin Associates
641 Avenue of the Americas
New York, NY 10011
(212) 741-1300

The firm specializes in special structures and renovations. In terms of building types, the firm is known for commercial and industrial facilities, labs, distribution/warehousing centers, and airports and hangars. Staff of 150 includes 28 registered structural engineers and 14 registered architects. *Charles H. Thornton, Pres.; Richard L. Tomasetti, Sr. VP; Joseph N. Zuliani, VP/Oper.*

29
(26)
$12.27

Post, Buckley, Schuh & Jernigan Inc.
8600 N.W. 36th St.
Miami, FL 33166
(305) 592-7275

Total revenues reported by this employee-owned firm for the fiscal year ended Sept. 30, 1989, were $79 million. Commercial and institutional building projects accounted for 19 percent of the firm's work; the remaining non-C.I.I. work included civil and highway projects, transportation planning, solid waste and water/wastewater facilities. *P. Searcy, Chmn.; H.M. Dye, Pres.*

30
(34)
$12.15

Marathon Inc.
P.O. Box 335
Menasha, WI 54952
(414) 725-3923

Marathon is best-known for facilities for the pulp and paper, chemical, and food and beverage industries. Staff of 191 includes 22 registered mechanical engineers, 14 structural engineers and 14 architects. The firm has recently expanded its work in the area of corporate office and research facilities. A branch office is located in Augusta, Ga. *Harold R. Miller, Pres., CEO*

Gee & Jensen completed the DeLand (Fla.) Public Library in 1989. The $2.4 million community library encompasses 25,000 square feet.

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ENGINEER/ARCHITECTS

31 (29) **$10.45**
A.M. Kinney Inc. & Affiliates
2900 Vernon Place
Cincinnati, OH 45219
(513) 281-2900

Staff of 187 includes 34 registered architects, 17 structural engineers and 21 mechanical engineers. Projects under way include a $14 million lab in Hartford, Conn., for Loctite Corp., a lab for the University of Cincinnati's Institute of Environmental Health and a $15 million lab in Bethesda, Md., for the National Institutes of Health. *A.M. Kinney Jr., Chmn.*

Reconstruction represented 32 percent of the Engineer/Architects work in 1989.

36 (40) **$8.50**
EI Associates
115 Evergreen Place
East Orange, NJ 07108
(201) 672-5100

This privately held firm is best-known for schools, labs, industrial buildings and chemical/pharmaceutical plants. During 1989 EI Associates acquired two firms: VSSR of Buffalo, N.Y., and Clark, Clark, Millis & Gilson of Syracuse, N.Y. Staff now totals 300 with 65 registered professionals. Total revenues from design and planning were $17 million for calendar 1989, of which roughly 50 percent involved C.I.I. building projects. *Peter A. Cipriano, Pres.*

32 (32) **$9.85**
Rose, Beaton & Rose/ Rose Engineering
81 Main St.
White Plains, NY 10601
(914) 682-4896

This privately held firm is best-known for computing centers, telecommunications facilities, corporate interiors and industrial buildings. A branch office is located in Armonk, N.Y. Reconstruction accounted for 60 percent of the firm's work. Staff numbers 85. *William A. Rose Jr., Ptnr.*

34 (46) **$9.12**
Piedmont Olsen Inc.
P.O. Box 1717
Greenville, SC 29602
(803) 242-1717

The firm was formerly known as the Piedmont Group; a merger with Olsen Associates was completed in January 1990. Staff numbers 237. Branch offices are located in Raleigh and Greenville, N.C. Current projects include a textile plant in Fayette, Ala., a chemical plant expansion in Spartanburg, S.C., and an office building renovation in Research Triangle Park, N.C. *E.W. Merck, Chmn.*

37 (39) **$8.07**
Schemmer Associates Inc.
1044 N. 115th St.
Omaha, NE 68154
(402) 493-4800

The firm's marketing emphasis is on health care, vehicle maintenance facilities and retail design and renovation. Among projects scheduled for completion in 1991 are a shopping center renovation in Omaha, a $5 million medical center in Seattle, an armory in Buckley, Wash., and a multiuse commercial project in Orlando, Fla., for Disney Development. *J.A. Schemmer, Chmn.; Roger Wozny, Pres.*

33 (35) **$9.46**
Stetson-Harza
185 Genesee St.
Utica, NY 13501
(315) 797-5800

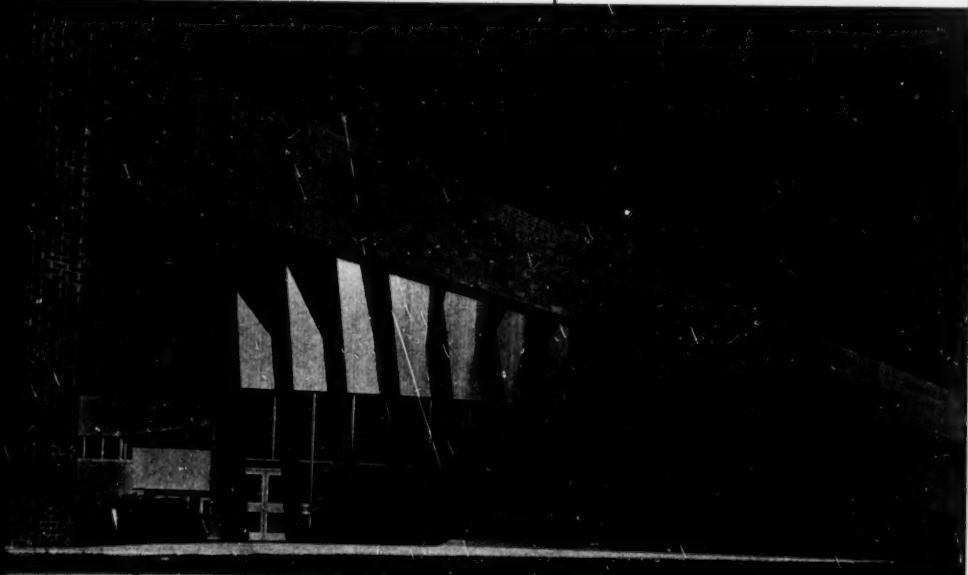
In addition to its headquarters, this employee-owned firm operates offices in Troy and Newburgh, N.Y., Concord, N.H., and Chicago. Total revenues for calendar 1989 were $20 million; C.I.I. work represents 48 percent of the total. Marketing emphasis focused on five client groups: education, utilities, government, pharmaceutical/chemical/foods, and industry. *John B. Stetson, Pres.*

35 (50) **$8.77**
Foth & Van Dyke
P.O. Box 19012
Green Bay, WI 54307
(414) 497-2500

During the past year the firm opened new offices in St. Louis, Chicago and Tampa. In terms of building construction, this privately held firm specializes in industrial, educational, health care and commercial structures. Staff numbers 365. Total revenues for calendar 1989 were $22.5 million, of which C.I.I. buildings represented approximately 39 percent. *Steven K. Van Dyke, Chmn.; Joseph A. Homel Jr., Pres.*

38 (—) **$7.86**
Maguire Group Inc.
225 Foxborough Blvd.
Foxborough, MA 02035
(508) 543-1700

During 1989 Maguire moved its corporate headquarters to a new location in Foxborough, Mass., as part of a reorganization designed to enable the firm to expand its services in the Northeast. The firm operates branch offices in Providence, R.I., New Britain, Conn., Pittsburgh, Honolulu and Wayne, N.J. Staff numbers 414. Public projects accounted for 83 percent of the firm's work in 1989. *Vincent M. Cangiano, Pres., CEO*



Stetson-Harza is the designer of record for the 85,000-sq.-ft. Campus Center at the State University of New York's Institute of Technology in Marcy, N.Y.

39 (36) **$7.84**
Donohue
4738 North 40th St.
Sheboygan, WI 53082-1067
(414) 458-8711

Donohue's building specialties include schools, hotels, municipal buildings, theaters and industrial facilities. Total revenues from design and planning were $70 million for calendar 1989, of which 14 percent involved C.I.I. building projects. Staff numbers 1,030, including 19 registered architects, 24 structural engineers and 13 mechanical engineers. *Keith J. Garnett, CEO*

40 (—) **$7.81**
Allen & Hoshall
2430 Poplar Drive
Memphis, TN 38112
(901) 327-8222

In addition to its Memphis headquarters, this privately held firm operates branch offices in Knoxville, Nashville, and Jackson, Miss. Marketing emphasis for C.I.I. projects is focused largely on industrial and military facilities. Recent projects include a cereal plant in Memphis, a medium-security prison in Mountain City, Tenn., and a commissary at Camp Lejeune, N.C., for the Navy. *Frank B. Gianotti III, Pres.*

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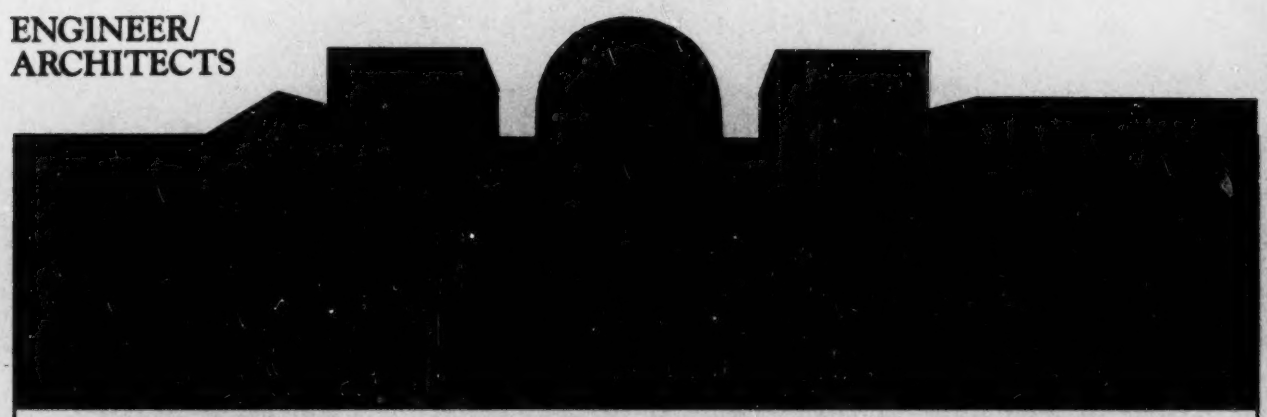
ENGINEER/ ARCHITECTS



General William Hoge Hall, designed by Kenneth Balk & Assoc., is post headquarters of Fort Leonard Wood, Mo. Photo: S. Fentress

41
(41)
$7.73

Booker Associates Inc.
1139 Olive St.
St. Louis, MO 63101
(314) 421-1476

The firm's specialties include transportation, military and industrial facilities, environmental analysis and blast-resistant design. Staff of this employee-owned firm numbers 237. Public projects accounted for 40 percent of the firm's work in the fiscal year ended June 30, 1989. *James E. Moulder, CEO*

44
(48)
$7.34

Anderson-Nichols & Co. Inc.
31 St. James Ave.
Boston, MA 02114
(617) 695-3400

Renovation/retrofit is a growing share of the firm's business, and it accounted for 35 percent of its work last year. The firm is best-known for high-tech, research, office and industrial buildings. A branch office is located in Concord, N.H. Total revenues from design and planning were $11.3 million, of which 65 percent represented C.I.I. building projects. *Joseph F. Keane, Pres., CEO*

47
(—)
$6.75

Kenneth Balk & Associates Inc.
P.O. Box 27338
St. Louis, MO 63141
(314) 576-2021

This privately held firm has a branch office in Houston. The firm's marketing emphasis is on parking garage renovation, tax increment-financed development, government and retail projects, and facilities engineering. Recently completed projects include modification of a department store in Westfield, N.J., and a new 123,000-sq.-ft. administration building at Fort Leonard Wood, Mo. *Kenneth Balk, Pres., CEO*

42
(—)
$7.70

Ammann & Whitney
96 Morton St.
New York, NY 10014
(212) 524-7200

Total revenues from design and planning were $14 million for calendar 1989, of which 55 percent involved C.I.I. building projects. Reconstruction accounted for 30 percent of the firm's work. Current projects include restoration of 40 buildings at Boston University, a correctional facility in Nassau County, N.Y., and a new $50 million terminal at Dulles Airport. *Edward Cohen, Managing Ptnr.*

45
(21)
$7.27

Barge, Waggoner, Sumner & Cannon
162 3rd Ave. North
Nashville, TN 37201
(615) 254-1500

During the past year the firm acquired Alabama-based Wainwright Engineering Co. and opened a new office in Miamisburg, Ohio. Total revenues from design and planning for calendar 1989 were $19 million, of which 38 percent represented C.I.I. building projects. Staff numbers 384, including 21 registered architects, 15 structural engineers and 13 mechanical engineers. *William H. Cannon, Chmn.*

48
(47)
$6.60

TSP Group Inc.
1110 West Ave. N., #102
Sioux Falls, SD 57104
(605) 335-8448

The firm is best-known for educational and medical facilities, industrial/manufacturing facilities, office buildings and nursing/retirement communities. Staff of 151 includes 20 registered architects and 11 mechanical engineers. The firm reported continued expansion into design/build, CM, development and general contracting activities. *Ronald W. Mielke, Pres.*

43
(33)
$7.41

Stanley Consultants Group
225 Iowa Ave.
Muscatine, IA 52761
(319) 264-6600

Total revenues from design and planning in the fiscal year ended April 1, 1989, were $15.43 million, of which 48 percent represented C.I.I. building projects. Among current projects are a 61,000-sq.-ft. YWCA/YMCA facility in Muscatine, a $14 million service/office center in Lakeland, Fla., and a molecular biology classroom and lab building in Ames, Iowa. *Richard H. Stanley, Chmn.; Gregs G. Thomopulos, Pres.*

46
(49)
$7.00

Hixon Inc.
25 Merchant St., #400
Cincinnati, OH 45246
(513) 771-5700

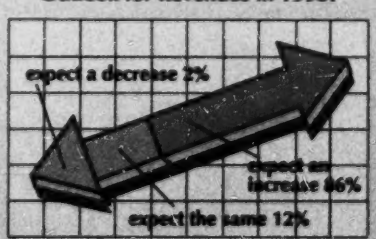
Hixon's emphasis is on facilities for corporate clients, including offices, R&D, retail, distribution centers and process engineering. Reconstruction projects accounted for 62 percent of the firm's work in 1989. Current projects include renovation and modification of food processing facilities in California, New York, New Jersey and Ohio as well as a new 550,000-sq.-ft. regional mall in Ohio. *J.W. Ach, Pres., CEO*

49
(42)
$6.56

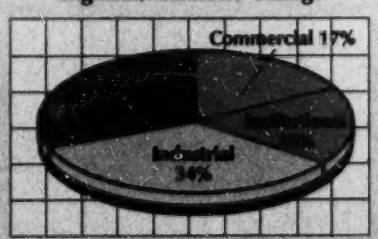
Shive-Hattery Inc.
P.O. Box 1803
Cedar Rapids, IA 52406
(319) 362-0313

In addition to its Cedar Rapids headquarters, the firm has branch offices in Moline, Ill., and Iowa City and Des Moines, Iowa. Staff numbers 158 members. Projects scheduled for completion in 1991 include a 103,000-sq.-ft. distribution center in Iowa City and an addition to a field house for Luther College in Decorah, Iowa. *Donald P. Hattery, Chmn.*

What is the Engineer/Architects' Outlook for Revenues in 1990?



Breakdown of the Engineer/Architects' Billings



50
(43)
$6.51

BEI Associates Inc.
150 W. Jefferson Ave.
Detroit, MI 48226
(313) 963-2300

This employee-owned firm has a staff numbering 150. Recently completed C.I.I. building projects include a municipal jail, a state prison, a chemical plant and a 26-story office tower. Reconstruction accounted for 40 percent of the firm's work in calendar 1989; government and public projects accounted for 20 percent. During the past year the firm occupied new offices in Detroit's central business district. *Christopher P. Kittides, Pres., CEO*

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ENGINEERS

ENGINEERS' BILLINGS SOAR
Billings for the top five firms more than doubled in 1989

1
(3)
$340.00

United Engineers & Constructors
30 S. 17th St.
Philadelphia, PA 19101
(215) 422-3000

In 1989, the firm's engineering for industrial clients increased by 25 percent and its work for government clients increased by 15 percent. The firm added one office in Pittsburgh, bringing its total number of offices to nine while its total number of employees increased by 400 to 5,064. Firm is also listed in the Design/Builders category. *Gunnar E. Sarsten, Pres., CEO*

2
(1)
$264.25

Fluor Daniel Inc.
100 Fluor Daniel Drive
Greenville, SC 29601
(714) 975-2000

Firm is also listed in the General Contractors and the Design/Builders categories. Total billings exceeded $1 billion. 1989 engineering projects included an NEC Electronics fabrication plant in Roseville, Calif., and a Champion Paper plant in Sheldon, Texas. Eight percent of the firm's work was for the government and 20 percent involved reconstruction work. *Vince Kontny, Pres., CEO*

3
(6)
$75.68

Simons-Eastern Consultants Inc.
One West Court Square
Decatur, GA 30030
(404) 370-3200

The firm opened offices in Monroe, La., and Green Bay, Wis., and added more than 350 employees in 1989. Expansion of specialty chemicals and food and beverage business units contributed to growth. Major projects for the firm include a pine/pulp facility and a newsprint plant in Alabama and a paperboard manufacturing facility in Georgia. Reconstruction work is 18 percent of the firm's billings. *T.W. Lane, Pres.*

4
(2)
$65.86

Law Engineering Inc.
P.O. Box 888013
Atlanta, GA 30356
(404) 396-8000

The firm is one of three subsidiaries of Law Companies Group Inc. This subsidiary specializes in consulting engineering for building construction quality control, geosciences and materials engineering. Projects include work for Goodyear Tire & Rubber, the Miami Metro Mover and Universal Studios. Reconstruction work accounted for 12 percent of firm's billings. *Walter T. Kiser, CEO*

5
(14)
$54.28

Bechtel Group Inc.
50 Beale St.
San Francisco, CA 94119
(415) 768-1234

More than $5 billion in total billings were reported by the firm, which is also listed in the General Contractors and the Design/Builders categories. Projects include the expansion of New York's JFK International Airport, a newsprint mill located in Tennessee and an advanced lithography facility for IBM in New York. Government work accounted for 30 percent of firm's billings. *S.D. Bechtel Jr., Chmn.*

6
(5)
$40.67

Dames & Moore
911 Wilshire Blvd.
Los Angeles, CA 90017
(213) 683-0471

Seismic design, structural, civil, environmental and geotechnical engineering are among the services the firm provides for C.I.I. projects. Firm acquired Florida Land Design & Engineering, Cold Spring Resources in Minnesota and Hollingsworth Associates, an Australian engineering firm. Total 1989 billings included more than $50 million in international work and $170 million in non-C.I.I. work in addition to the billings listed above. *George D. Leal, CEO*

7
(4)
$39.60

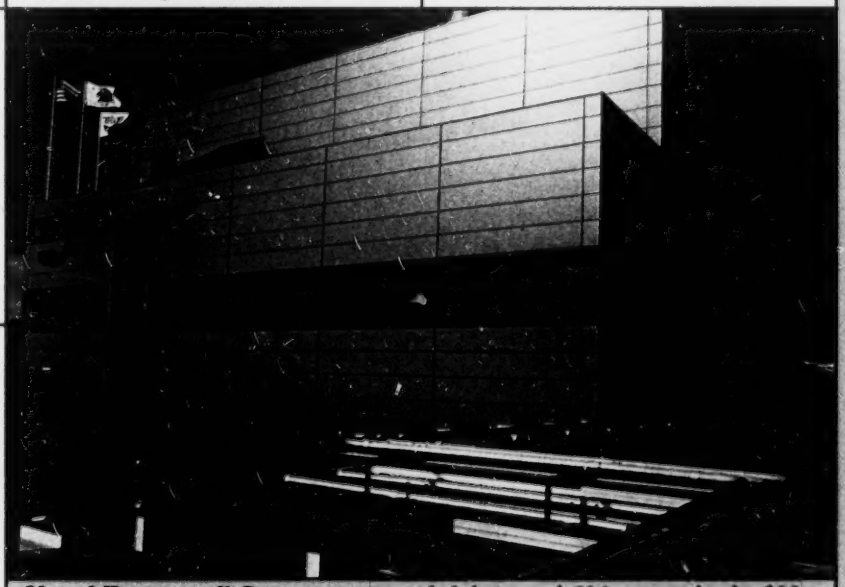
Syska & Hennessy Inc.
11 West 42nd St.
New York, NY 10036
(212) 921-2300

An increase in projects involving R&D facilities, convention centers and interiors engineering was reported by firm. Projects include the $242 million Eli Lilly headquarters expansion in Indianapolis, the $42 million New Jersey State Aquarium in Camden and the $100 million Minneapolis Convention Center. Reconstruction work accounted for 20 percent of the firm's billings. *John F. Hennessy, Chmn., CEO*

8
(8)
$35.69

Eichleay Engineers Inc.
6585 Pennsylvania Ave.
Pittsburgh, PA 15206
(412) 363-9000

The firm has seven major divisions with offices in Pittsburgh, Chicago and San Francisco. Current projects include mechanical and electrical engineering for Butler Memorial Hospital in Butler, Pa., and for United Community Hospital in Grove City, Pa. Full-service engineering was provided for a cold mill aluminum facility in Davenport, Iowa. *Theodore W. Nelson, Pres.*



United Engineers & Constructors provided design and CM services for this $28 million pharmaceutical manufacturing facility for Cetus Corp. in Emeryville, Calif.

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ENGINEERS

9 (7) **$33.01**
BE&K Inc.
2000 Int'l Park Drive
Birmingham, Al 35243
(205) 969-3600

Mechanical/electrical engineering accounted for 60 percent of the above figure and structural/civil accounted for 20 percent. Firm is also listed in General Contractors, Design/Builders and Construction Managers categories. Firm purchased Allstates Design and Development, Trevose, Pa., in 1989. Fifty percent of the billings were for reconstruction projects. *Ted C. Kennedy, Chmn, CEO; T. Michael Goodrich, Pres.*

10 (12) **$23.75**
Flack + Kurtz
Consulting Engineers
475 Fifth Ave.
New York, NY 10017
(212) 532-9600

Through its three U.S. offices in New York, Chicago and Los Angeles, the firm provides mechanical and electrical engineering for office buildings, sports facilities, universities, museums and airports. Projects include a modern art museum in San Francisco, a 750,000-sq.-ft. office building in New York City and a 550,000-sq.-ft. mixed-use center in Minneapolis. *Peter Flack, Norman Kurtz, Mng. Prins.*

11 (18) **$20.60**
O'Brien & Gere Engineers
5000 Brittonfield Parkway
Syracuse, NY 13221
(315) 437-6100

Reconstruction accounted for 60 percent of firm's billings, while government work made up 39 percent. Projects include a 190,000-sq.-ft. corporate headquarters in Syracuse, N.Y., and a 60,000-sq.-ft. ore processing plant in upstate New York. Firm placed additional industrial hygienists on staff in response to OSHA requirements and added a landscape architect to address site development more fully. *John R. Loveland, Chmn.*

12 (10) **$19.00**
Martin Associates Group Inc.
1800 Wilshire Blvd.
Los Angeles, CA 90057
(213) 483-6490

The firm provides consulting structural engineering for long-span, special and high-rise structures as well as seismic design. A new office was established in Las Vegas where the firm consulted on the $700 million Mirage Hotel. Other projects include the $350 million Los Angeles County Jail expansion and the $31 million King Kong Attraction at Universal Studios. Government work accounted for 20 percent of firm's work. *John A. Martin, CEO*

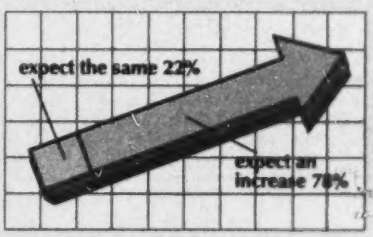
13 (9) **$13.40**
Midwest Technical Inc.
2608 E. Center St.
Kingsport, TN 37664
(615) 246-8711

Reconstruction work accounted for 100 percent of firm's billings. C.I.I. billings listed above represent only 20 percent of firm's total billings, which included non-C.I.I. work such as mining and refining plants. Firm is a subsidiary of CDI Corp., Philadelphia, and is affiliated with Continental Consultants, Dayton, Ohio. *Rayford E. Easter, Pres.*

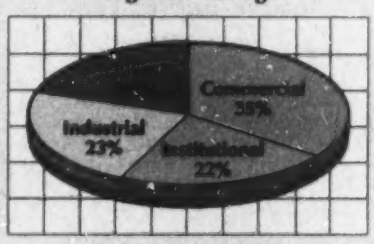
14 (—) **$12.60**
The PSI Group of Companies
1790 Kirby St.
Memphis, TN 38138
(901) 756-8250

Firm is a new listing this year. Specializing in the design, engineering and construction of food and beverage, edible oil, specialty chemical and package handling facilities, firm is comprised of three subsidiaries. Revenues listed above reflect only the engineering design portion of total firm billings. Reconstruction work accounted for 45 percent of firm's work. *Richard T. Gadomski, CEO*

What is the Engineers' Outlook for Revenues in 1990?



Breakdown of the Engineers' Billings



15 (15) **$12.38**
Patton Harris Rust and Assoc. P.C.
3998 Fair Ridge Drive
Fairfax, VA 22030
(703) 273-8700

Government work comprised 15 percent of firm's work including a headquarters building and a fire station at the U.S. Army's Fort Belvoir in Virginia. Other projects include a new National Air & Space Museum building outside Washington, D.C., and the U.S. Holocaust Memorial Museum in the capital. Firm has seven offices, all located in Virginia and Maryland. *Charles Weber, Pres.; Thomas Rust, Sr. VP; Eugene Fournier, Sr. VP*

16 (—) **$12.00**
The Keith Companies
200 Baker St.
Costa Mesa, CA 92626
(714) 540-0800

The firm, which is a new listing this year, acquired Butterfield Engineering, Lake Elsinore, Calif., in 1989. C.I.I. billings listed above account for only 30 percent of total billings for the firm, which is heavily involved with planned residential community development. New offices were opened in Hawaii and Taiwan. *Aram H. Keith, Pres.; Larry Mandell, VP/Bus. Devel.*

17 (17) **$11.43**
R.G. Vanderweil Engineers
266 Summer St.
Boston, MA 02210
(617) 423-7423

The firm acquired GRG Consulting Engineers Inc., a 25-person company in Orlando, Fla., its only office outside of the Boston headquarters. Recent projects for the mechanical and electrical engineering firm include a 500,000-sq.-ft. mall for Homart in Hartford, Conn., a 365-unit life care center for Cabot, Cabot & Forbes in Westwood, Mass., and a 425,000-sq.-ft., computer-intensive tenant fit-up project in Billerica, Mass. *Gary Vanderweil, Pres.*

18 (—) **$10.63**
AVCA Corp.
5855 Monroe St.
Sylvania, OH 43560
(419) 885-2822

This mechanical and electrical engineering firm is a new listing this year. The firm provides engineering design for food, automotive, glass, pharmaceutical and chemical manufacturing facilities. Recent projects include a $60 million glass assembly plant in Shelbyville, Ind., and a $24 million food processing plant in Toledo, Ohio. *William H. Christoffers, Pres., CEO; Jack A. Thayer, Ptnr.; Dean J. Diver, Ptnr.*

19 (11) **$10.40**
Gilbert/Commonwealth Inc.
Box 1498
Reading, PA 19603
(215) 775-2600

C.I.I. engineering billings listed above represent only 8 percent of the firm's total revenues. The firm also provides construction management services. The majority of Gilbert/Commonwealth's activities involves utility plants. *Charles D. Williams, Pres.; William E. Meek, VP/Eng.*

20 (16) **$10.26**
Joseph R. Loring & Assoc.
1 Pennsylvania Plaza
New York, NY 10119
(212) 563-7400

Oscar Faber plc, a British consulting engineering firm, acquired a 30 percent interest in the firm last year. The firm is currently marketing its mechanical, electrical and site/civil engineering services for laboratory, data center, educational and airport projects. Current projects include an $80 million data center in Mahwah, N.J., and a $39 million mental health center in Utica, N.Y. *Joseph R. Loring, Chmn., CEO*

21 (21) **$9.87**
Simpson Gumpertz & Heger Inc.
297 Broadway
Arlington, MA 02174
(617) 643-2000

The firm is known for structural engineering, building technology, engineering mechanics and materials technology. It has also been involved in many structural failure investigations. Current projects include the $130 million Ambulatory Care Center at Johns Hopkins Hospital, Baltimore, and an addition to the MIT architecture library in Cambridge, Mass. *Howard Simpson, Werner H. Gumpertz, Frank J. Heger, Sr. Prins.*

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22 (23) $9.54

Rolf Jensen & Assoc.
1751 Lake Cook Road
Deerfield, IL 60015
(708) 948-0700

The firm is known for fire protection engineering and building code consulting. With offices in Toronto and Vancouver, Canada, firm's international billings exceeded $2 million. Current projects include fire protection systems for the J. Paul Getty Center, Los Angeles, B-2 Stealth Hangars at various locations and the Mall of America in Bloomington, Minn. Government work accounted for 15 percent of firm's billings. *Rolf Jensen, Pres.*

23 (20) $9.54

Weidlinger Associates
333 Seventh Ave.
New York, NY 10001
(212) 563-5200

Specializing in structural engineering, the firm is maintaining an active marketing program to support its expansion into Western U.S. and European markets. Reconstruction work accounted for 25 percent of firm's billings and government projects made up 15 percent. Recent projects include the $50 million Cornell Veterinary School in Ithaca, N.Y., and the Georgia Dome stadium and convention center in Atlanta. *Paul Weidlinger, Prin.*

Consulting engineering services for a research laboratory in New York City were provided by Weidlinger Associates.
Photo: Wolfgang Hoyt

24 (19) $9.00

Lehr Associates
130 West 30th St.
New York, NY 10001
(212) 947-8050

The firm acquired offices in Munich and London in 1989. Services include mechanical, electrical, sanitary and fire protection/life safety engineering. Reconstruction work accounted for 50 percent of the firm's business while government work made up 13 percent. Current projects include the $20 million UN Plaza Hotel and the $50 million St. Joseph's Hospital in New Jersey. *Valentine Lehr, Louis Lalli, Thomas Jordan, Ptnrs.*

25 (37) $8.50

Robson & Woese Inc.
P.O. Box 0606
East Syracuse, NY 13057
(315) 445-2650

This privately held mechanical and electrical engineering firm specializes in health care facilities, laboratories and correctional facilities. Offices are located in Buffalo, Rochester and Syracuse, N.Y. Current projects include the Rochester International Airport expansion and renovation, and a 1.2 million-sq.-ft. shopping mall in Syracuse. *Philip L. French, Chmn.; Theodore K. Knowles, Pres.*

26 (29) $8.49

Paulus Sokolowski and Sartor Inc.
P.O. Box 4039
Warren, NJ 07060
(201) 560-9700

A continued increase in reconstruction activity is reported by this full-service engineering firm. Recent projects include structural engineering for three buildings at the Carnegie Center, Princeton, N.J., and full-service engineering for four buildings at Trenton State College, Trenton, N.J. *William Paulus Jr., Pres.; Anthony Sartor, Exec. VP*

27 (25) $8.28

KPFF Consulting Engineers
1201 Third Ave.
Seattle, WA 98101
(206) 622-5822

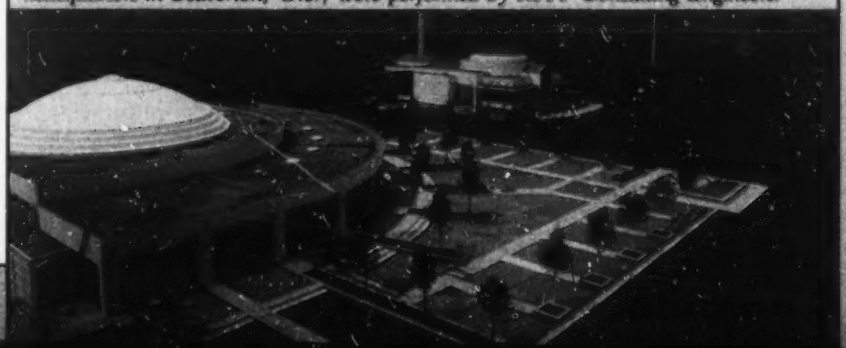
Government projects accounted for 20 percent of this structural engineering firm's billings. The firm has a staff of 152 employees in offices in Seattle, Los Angeles and Portland, Ore. Current projects include the $65 million Nike Corp. Headquarters, the $30 million Oregon Museum of Science & Industry and, in Los Angeles, the seven-story USC Hospital building, which has a base-isolation foundation. *David T. Thomas, Pres.*

28 (30) $8.05

Newcomb & Boyd
One Northside 75
Atlanta, GA 30318
(404) 352-3930

This 136-person firm provides mechanical, electrical and acoustical engineering. Reconstruction accounted for 36 percent of the firm's billings and government projects accounted for 10 percent. Recent projects include the $125 million C&S Plaza in Atlanta, the $12 million Tulane Laboratory in New Orleans and the $150 million expansion of the Orlando Airport in Florida. *Warren D. Shiver, Ptnr.*

Structural engineering services for the 450,000-sq.-ft. Nike World Campus headquarters in Beaverton, Ore., were performed by KPFF Consulting Engineers.



29 (26) $7.90

Smith Seckman Reid Inc.
3319 Westend Ave.
Nashville, TN 37203
(615) 383-1113

In 1989 the firm acquired Hickerson, Harris & Hays civil engineers and formed an industrial design division. Recent projects include a new $20 million TV station in Washington, D.C., a $32 million medium-security prison in Waynesboro, Tenn., and a $70 million hospital renovation and addition project in Laguna Hills, Calif. Reconstruction work accounted for 50 percent of firm's billings. *J. Robin Barrick, Pres., CEO*

30 (33) $7.52

Schirmer Engineering Corp.
707 Lake Cook Road
Deerfield, IL 60015
(708) 272-8340

This fire protection engineering firm's services include code consultation, design of fire protection systems and risk management for commercial, institutional and government clients. Reconstruction work accounted for 75 percent of firm's billings, while government work made up 5 percent. Recent projects include the Sands Hotel and Convention Center, Las Vegas, and the United Airlines Terminal, Chicago. *Chester W. Schirmer, Pres.*

31 (38) $7.36

Carter & Burgess Inc.
P.O. Box 2973
Fort Worth, TX 76113
(817) 335-2611

The firm added to its Fort Worth, Texas, and Fort Myers, Fla., operations by acquiring the Dallas and Fort Worth operations of another engineering company. An environmental engineering group was added and marketing emphasis has shifted away from the defense department toward other government agencies. Government work accounted for 30 percent of the firm's billings. *Wilton N. Hammond, Chmn.; Jerry W. Allen, Pres.*

32 (23) $7.10

LeMessurier Consultants
1033 Massachusetts Ave.
Cambridge, MA 02238
(617) 868-1200

This structural, mechanical and electrical engineering firm generated 25 percent of its revenues through government projects. Reconstruction work made up 15 percent of the firm's revenues. Recent projects include a $50 million office building in Washington, D.C., and the $90 million New Boston Garden. *William LeMessurier, Chmn.; John Barrett, Pres.*

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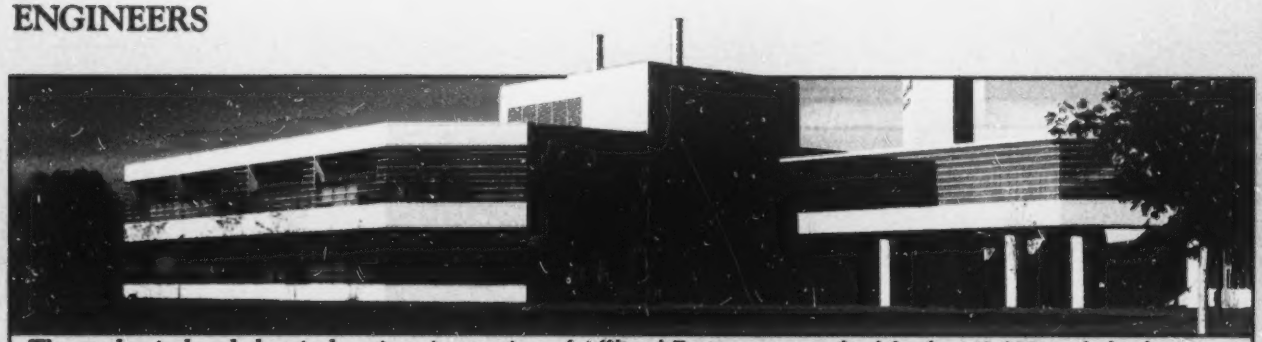
ENGINEERS



***The mechanical and electrical engineering services** of Affiliated Engineers were utilized for the 142,000-sq.-ft. headquarters, R&D and production facility of Pharmfair/Bausch & Lomb Pharmaceuticals in Tampa, Fla.*

33 (36) **$6.80**
EA-Mueller Inc.
1401 S. Edgewood St.
Baltimore, MD 21227
(301) 646-4500

The firm performs mechanical and electrical engineering for institutional, industrial, commercial and government clients. Specialty building types include museums, hospitals, laboratories and computer centers. Recent projects include a renovation of the Virginia Museum of Fine Arts in Richmond and an addition of a clinic to the VA Medical Center, Perry Point, Md. *Andrew Parker Jr., Pres.*

36 (—) **$6.06**
Bala Consulting Engineers
259 E. Lancaster Ave.
Wynnewood, PA 19096
(215) 649-8000

The firm provides full-service engineering for commercial, institutional and industrial clients. A new office was opened in Lanham, Md., to serve the Baltimore/Washington, D.C., market. Recent projects include the conversion of a 40,000-sq.-ft. warehouse into a high-tech band-aid manufacturing facility for Johnson & Johnson, and renovating a 150,000-sq.-ft. manufacturing facility into a corporate headquarters for Fischer & Porter. *Michael Anastasio, Pres.*

39 (—) **$5.85**
W.L. Thompson Consulting Engineers Inc.
3475 Lenox Road, N.E.
Atlanta, GA 30326
(404) 266-1400

The firm, a new listing this year, provides full-service engineering services for commercial, institutional, industrial and government clients. Current projects include the $110 million Disney Mediterranean Resort in Florida, the $7.8 million Beaufort County Jail in South Carolina, the $50 million Ritz-Carlton Amelia Island Hotel in Florida and the Carolina Place Mall, Charlotte, N.C. *William L. Thompson, Pres.*

The top two Engineers reported a $400 million increase in billings for 1989, while the firms in the final ten positions reported a collective 25 percent increase, indicating a solid year for the entire group.

40 (39) **$5.20**
H.F. Lenz Co.
1732 Lyter Drive
Johnstown, PA 15905
(814) 255-5821

The firm's reconstruction work rose to 60 percent of its revenues while government work accounted for 32 percent. This full-service engineering firm provides engineering for high-rise office building retrofits, historic structures, and health care and educational facilities, among other building types. Recent work includes a Social Security data operations center in Wilkes-Barre, Pa., and VA medical centers in Pittsburgh and Philadelphia. *Charles J. Neuhoff, Pres.*

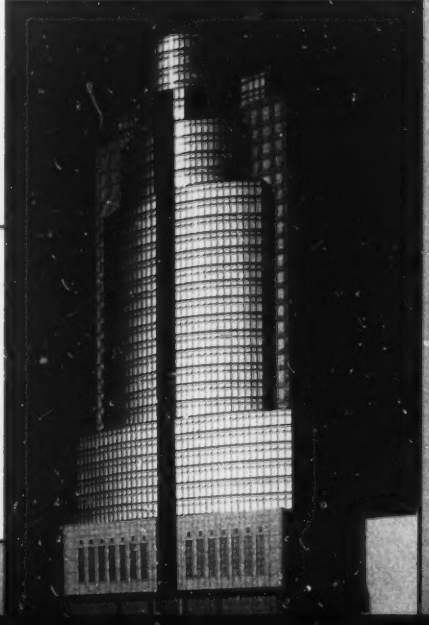
34 (34) **$6.60**
Affiliated Engineers Inc.
625 W. Segoe Road
Madison, WI 53705
(608) 238-2616

With 108 employees, the firm provides mechanical and electrical engineering for technically complex facilities including R&D laboratories, medical facilities, data centers and industrial facilities. The firm has increased presence on the West Coast by gaining several projects including a 164,000-sq.-ft. R&D facility in Irvine, Calif., and a cancer research center in Seattle. *Peter E. Starkweather, Pres.*

37 (32) **$6.00**
Skilling Ward Magnusson Barkshire Inc.
120 Fifth Ave.
Seattle, WA 98101
(206) 292-1200

With 26 structural engineers, the firm provides structural engineering services for high-rise, stadium, medical, airport and convention center projects. Projects include the 54-story Society Tower in Cleveland, a $40 million medical center in Loma Linda, Calif., and a $44 million hotel and parking structure in San Diego. The firm performed no reconstruction projects in 1989. *John Skilling, Chmn.; Jon Magnusson, CEO*

***Walter P. Moore and Associates** designed the structural system for the 34-story 312 Walnut building in Cincinnati.*



35 (27) **$6.25**
Lowry-Sorensen-Willcoxson Engineers Inc.
2333 W. Northern Ave.
Phoenix, AZ 85021
(602) 249-1320

This mechanical, electrical and plumbing engineering firm derived 50 percent of its revenues from government projects. The firm is developing in-house lighting design capabilities to meet an increasing demand for engineered lighting systems. Current projects include a 180,000-sq.-ft. airport terminal concourse in Phoenix, Ariz. *Robert J. Willcoxson, Pres.; Peter Kunka, VP*

38 (24) **$5.98**
Walter P. Moore and Associates Inc.
3131 Eastside
Houston, TX 77098
(713) 630-7300

The specialties for this structural and civil engineering firm include the design of high rises and sports stadiums. Firm increased marketing efforts on long-span structures last year. Government work accounted for 20 percent of firm's revenues. Current projects include the Moody Biome, a 12-story greenhouse in Galveston, Texas, and a convocation center at Cleveland State University. *Walter P. Moore, Chmn., Pres.*

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DESIGN/BUILDERS

INSTITUTIONAL WORK FLOURISHES AMONG TOP DBs
Such work has nearly tripled since 1986, now accounting for 19 percent of total construction volume

1 (1) **$1,504.00**
The Austin Co.
3650 Mayfield Road
Cleveland, OH 44121
(216) 382-6600

Austin continues to emphasize its "Facilities of Tomorrow" program, which includes the design and construction of intelligent office buildings, automated distribution centers, computer-integrated manufacturing plants and logistics facilities. Firm received licenses to operate as a general contractor in Japan and to undertake civil works projects there. *Thomas J. Judge, Pres.*

2 (2) **$1,010.55**
Fluor Daniel
100 Fluor Daniel Drive
Greenville, SC 29601
(803) 298-2500

Fluor Daniel also ranks in the CM and GC categories. Firm employs a sector and business unit concept designed to bring each client a full range of engineering, construction and maintenance specialists for the particular project needs of the client's industry or service. Nearly 60 percent of its work was industrial during fiscal 1989, while 29 percent was non-C.I.I. related. *Vince Kontny, Pres., CEO*

3 (3) **$534.00**
BE&K Inc.
2000 International Park Drive
Birmingham, AL 35243
(205) 969-3600

BE&K also ranks in the CM, GC and Engineers categories. Firm remains known for the design and construction of industrial plants, power and cogeneration facilities and retail projects. It recently acquired Allstates Design and Development Co. and now employs 325 registered engineers. Over 75 percent of its work was industrial during calendar 1989. *Ted C. Kennedy, Chmn., CEO; T. Michael Goodrich, Pres.*

4 (—) **$512.70**
Charles Pankow Builders
2476 N. Lake Ave., P.O. Box 253
Altadena, CA 91001
(213) 684-2320

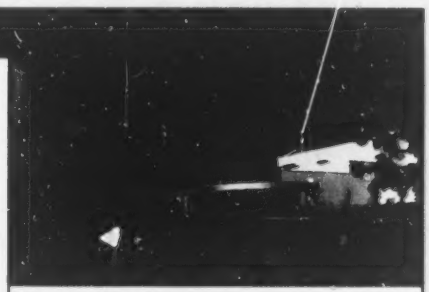
Pankow also ranks in the GC category. Its work is 100 percent commercial with emphasis on mid- and high-rise office buildings; hotels and condominiums; retail and large parking structures. Almost all work involves new construction. Recent projects include the Clarion Building, a 150,000-sq.-ft. corporate headquarters, research and production facility in Gardena, Calif. *Charles J. Pankow, Chmn.*

5 (—) **$459.30**
Hospital Building & Equipment Co.
11330 Olive St. Road
P.O. Box 27339
St. Louis, MO 63141
(314) 567-9000

HBE specializes in the planning, design and construction of health care facilities and is best-known for its work on complex renovation projects. Last year reconstruction accounted for 40 percent of its work. Projects under way include the $46.7 million Kaiser Permanente Medical Center in San Francisco. *Fred S. Kummer, Pres.*

6 (—) **$292.50**
United Engineers & Constructors
30 S. 17th St.
P.O. Box 8223
Philadelphia, PA 19101
(215) 422-3000

United also ranks in the Engineers category and performs general contracting and CM work. Firm serves a wide range of industries, including pharmaceuticals, biotechnology, chemicals, power, electronics, metals, general manufacturing and government. Nearly one-third of its work involves reconstruction, while 35 percent is non-C.I.I. related. *Gunnar E. Sarsten, Pres., CEO*



***Kajima International** recently completed a Subaru-Isuzu automotive assembly plant in Lafayette, Ind.* Photo: P.S. Bednarski

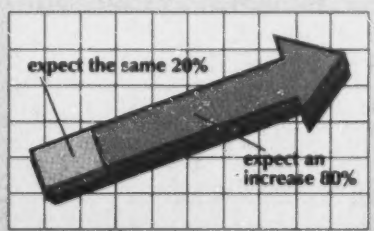
7 (7) **$246.78**
Marnell Corrao Associates
4495 S. Polaris
Las Vegas, NV 89103
(702) 739-9413

Firm engages exclusively in design and construction of Las Vegas-based hotel/casino projects. Nearly one-third of its work involves reconstruction. Due to several recently completed projects in Las Vegas, it expects the casino market to level off for the short run. Recently completed projects include Arizona Charlies, a 2.3 million-sq.-ft. hotel/casino. *Anthony Marnell II, Chmn.*

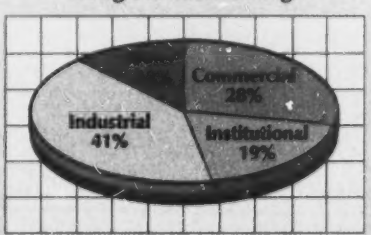
8 (4) **$221.03**
Kajima International Inc.
2100 N. Central Road
Fort Lee, NJ 07024
(201) 944-9800

Kajima also ranks in the GC category. Firm is best-known for design/build of manufacturing and process-related facilities. It also specializes in banking and securities-related projects. Industrial projects accounted for 57 percent of its work during calendar 1989, while commercial projects accounted for another 36 percent. More than one-third of its work involved reconstruction. *Shoichi Kajima, Pres., CEO*

What is the Design/Builders' Outlook for Revenues in 1990?



Breakdown of the Design/Builders' Billings



9 (6) **$215.00**
Opus Companies
P.O. Box 150
Minneapolis, MN 55440
(612) 936-4444

Virtually all of Opus' work involves new construction. Commercial projects accounted for 96 percent of its construction volume during 1989, though Opus also specializes in distribution, light manufacturing and institutional facilities. Current projects include First Bank Place, a 1.5 million-sq.-ft. office high rise in Minneapolis. *Gerald Rauenhorst, CEO*

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DESIGN/BUILDERS

10 (5) $175.11
Bechtel Group Inc.
50 Beale St.
San Francisco, CA 94119
(415) 768-1234

Bechtel also ranks in the Engineers category. The figure above reflects its C.I.I. work, which accounts for only 6 percent of the total value of construction it put in place during calendar 1989. Firm provides full range of services including design, engineering, construction, CM, procurement, financing services, start-up, operating services, training and research. *S.D. Bechtel Jr., Chmn.*

Marshall Erdman & Associates' Charlotte Medical Center in Charlotte, N.C., houses specialty clinics and an ambulatory surgery center. Photo: Eric Oxendorf

11 (—) $165.00
Marshall Contractors Inc.
75 Newman Ave.
Rumford, RI 02916
(401) 438-3500

Marshall also ranks in the GC category. Industrial construction accounted for 70 percent of its work last year. Firm emphasizes its expertise in microelectronics, pharmaceutical and related industries, though it is also known for its work on high-rise office and hotel projects. Fifteen percent of its work involved reconstruction last year and 5 percent was government-related. *John L. Marshall, Pres.*

14 (—) $138.92
Fru-Con Construction Corp.
15933 Clayton Road
Ballwin, MO 63022
(314) 391-6700

Fru-Con also ranks in the GC category. Fifty-four percent of its work was non-C.I.I. related, while commercial and industrial projects made up the balance. Reconstruction accounts for nearly one-third of its work involving buildings. Recent projects include a $29 million beverage manufacturing facility for Procter & Gamble in Sherman, Texas. *Manfred Lupp, Pres., CEO*

17 (8) $125.00
The Carlson Group Inc.
321 Commonwealth Road
Cochituate, MA 01778
(617) 969-1200

Carlson also ranks in the GC category. Firm has restructured its organization to focus separately on design/build, construction management and general contracting activities. Firm remains known for the design and construction of industrial, commercial, educational and health care-related facilities. Nearly one-half of its work involved reconstruction during calendar 1989, while 17 percent of its work was government-related. *M. Joseph Celi, Pres., CEO*

12 (10) $154.44
Morrison Knudsen Corp.
1 Morrison Knudsen Plaza
P.O. Box 73
Boise, ID 83707 (208) 386-5000

MK also ranks in the CM and GC categories. Industrial projects comprised 12 percent of its design/build work in 1989, while institutional comprised another 12 percent. Firm has offices in eight U.S. locations and its total staff numbers 16,000. It expects revenues to remain the same during 1990. Recent projects include state prisons in Boise and Orofino, Idaho. *William M. Agee, Chmn., CEO*

15 (15) $135.00
Marshall Erdman & Assoc.
5117 University Ave.
Madison, WI 53705
(608) 238-0211

Firm is known for the programming, design, development and construction of ambulatory health care facilities. The rapid growth of this niche has increased Erdman's business with large health care providers. It has offices in seven U.S. locations including Hartford, Atlanta and Denver. Recent projects include a 100,000-sq.-ft. HMO facility in Fort Worth, Texas. *Roger Hauck, Pres.; Marshall Erdman, Chmn.*

18 (17) $123.00
James N. Gray Construction Co. Inc.
250 West Main St.
Lexington, KY 40507
(606) 281-5000

Gray opened a regional sales office in Westport, Conn., and expanded its Tokyo office with additional staff. Industrial projects accounted for all work during its last fiscal year. Firm continues to emphasize design/build of manufacturing facilities. Total revenues are expected to increase by 10 percent this year. *C.C. Howard Gray, Pres.; James P. Gray II, Exec. VP*

Eighty percent of the top 20 Design/Builders anticipate their revenues will rise in 1990. The average expected increase is 13 percent.

19 (12) $106.60
Sverdrup Corp.
13723 Riverport Drive
Maryland Heights, MO 63043
(314) 436-7600

Sverdrup also ranks in the EA and CM categories. Institutional projects accounted for 14 percent of its design/build work in calendar 1989, as compared to just 2 percent in 1988. Industrial projects accounted for 49 percent of such work. Recent projects include a new three-story office, training and computer laboratory building for Lockheed Space Operations Co. in Titusville, Fla. *B.R. Smith Jr., Chmn., CEO*

13 (11) $140.40
The Haskell Co.
Haskell Building
Jacksonville, FL 32202
(904) 791-4500

Institutional work accounted for 25 percent of Haskell's construction volume during calendar 1989, as compared with only 4 percent in 1988. Public sector projects include school, criminal justice and postal service facilities. Firm also continues to emphasize the design and construction of manufacturing and distribution centers. *Preston H. Haskell, Pres.; Kennon G. Holmes, Exec. VP*

16 (9) $131.00
Schumacher & Forelle Inc.
560 Northern Blvd.
Great Neck, NY 11021
(516) 482-8730

S&F provides in-house planning, design and construction management for laboratory, administrative and manufacturing facilities. Firm's industrial engineering group has experienced a significant work increase, due to relocations and consolidations of its manufacturing clients. Current projects include an administration building and lab for W.R. Grace in Massachusetts. *James W. Schubauer, Pres.*

20 (14) $92.00
Holmes & Narver Inc.
999 Town & Country Road
Orange, CA 92688
(714) 567-2400

H&N also ranks in the EA category. Reconstruction accounted for 70 percent of its work in 1989, as compared to 45 percent in 1988. Firm has entered into several new market areas, including prisons, rapid transit facilities and water districts. It has offices in five U.S. locations including Las Vegas, Boston and Washington, D.C. *Forrest C. Six, Pres.*

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CONSTRUCTION MANAGERS

TOP FIRMS MANAGE $8 BILLION OF CONSTRUCTION
Schools, prisons and R&D facilities are among the most active project types

1 (4) **$2,025.70**

CRSS Inc.
1177 West Loop South
Houston, TX 77027
(713) 552-2000

Firm also is listed in the Engineer/Architects category. Current projects include a more than $1 billion program for the Dade County (Fla.) schools, a $70 million Houston Independent School District construction program, a $150 million California Department of Corrections program and a $70 million Fujitsu Microelectronics Inc. wafer fabrication facility in Gresham, Ore. *Bruce Wilkinson, Chmn., CEO*

2 (7) **$985.21**

Gilbane Building Co.
7 Jackson Walkway
Providence, RI 02940
(401) 456-5800

Current projects include the 1.6 million-sq.-ft. Glaxo research and development complex at Research Triangle Park, N.C.; the $20 million Hillsborough County Correctional Facility in Manchester, N.H.; a $92 million Lederle Laboratories research building in Pearl River, N.Y.; and a $73 million, three-building distribution complex in Reynoldsburg, Ohio, for Limited Inc. *Paul Choquette, Jr., Pres.*

3 (9) **$848.00**

Sverdrup Corp.
13723 Riverport Drive
Maryland Heights, MO 63043
(314) 436-7600

Company also is listed in the Engineer/Architects and Design/Builders categories. Current projects include a new $500 million Austin, Texas, airport, a $62 million improvement program at Seattle-Tacoma Airport, a $300 million facilities program in eight Southern states for the U.S. Postal Service and a $130 million correctional facility for the California Department of Corrections. *B.R. Smith Jr., Chmn., CEO*

4 (8) **$800.00**

Tishman Realty & Construction Co.
666 Fifth Ave.
New York, NY 10103
(212) 399-3600

Current projects include a $3 billion redevelopment and modernization program at New York's JFK Airport, the $106 million Ronald Reagan State Office Building in Los Angeles, the $185 million Sheraton Chicago Hotel & Towers in Chicago, renovation of the St. Regis Sheraton Hotel in New York City and the new $300 million Regent of New York, which will be the city's tallest hotel. *John Tishman, Chmn., CEO*

5 (3) **$696.66**

Morrison Knudsen Corp.
1 Morrison Knudsen Plaza
Boise, ID 83707
(208) 386-8000

Company also is listed in the General Contractors and Design/Builders categories. Current projects include a new assembly plant in Spring Hill, Tenn., for GM's Saturn Division; a $96 million women's correctional facility and a $120 million men's jail, both on Rikers Island, N.Y.; a $78 million prison in Suffield, Conn.; and a $31 million criminal justice complex in High Point, N.C. *William Agee, Chmn., CEO*

6 (—) **$642.46**

Barton-Malow Co.
2777 Franklin Road
Southfield, MI 48034
(313) 351-4500

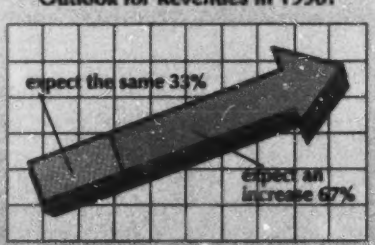
Firm also is listed in the General Contractors category. Current projects include a $34 million research and development facility in Forsythe County, Ga., for Amoco Performance Products, a new $375 million Chrysler Motors assembly plant in Detroit, a $105 million sports complex for the Baltimore Orioles and a $115 million criminal justice complex in West Palm Beach, Fla. *Ben Maibach, Pres.*

7 (1) **$580.78**

Fluor Daniel
100 Fluor Daniel Drive
Greenville, SC 29601
(803) 281-4400

Company also is listed in the Engineers, General Contractors and Design/Builders categories. Current projects include a $20 million office/manufacturing facility in Durham, N.C., for Becton Dickinson & Co.; a $120 million women's prison in Madera County, Calif.; the $20 million Greenville (S.C.) Performing Arts Center; and a $91 million Intel Corp. wafer fabrication facility in Santa Clara, Calif. *Vince Kontny, Pres., CEO*

What is the Construction Managers' Outlook for Revenues in 1990?



8 (5) **$530.00**

Lehrer McGovern Bovis Inc.
387 Park Ave. South
New York, NY 10016
(212) 576-4000

Current projects include $33 million of additions to the American Cyanamid Global Agricultural Research Center in Princeton, N.J.; a $15 million Law School Library at Cornell University, Ithaca, N.Y.; the $15 million Homewood Hospital Center in Baltimore; a $66 million expansion of Lincoln Center for the Performing Arts in New York City; and a $9.5 million county office building in Waterloo, N.Y. *Peter Lehrer, Gene McGovern, Co-Chmn.*

9 (—) **$440.42**

Turner Corp.
633 Third Ave.
New York, NY 10017
(212) 878-0400

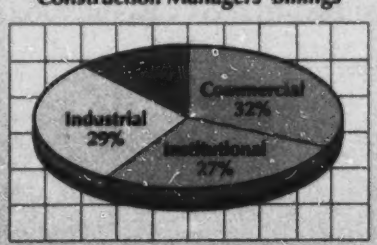
Firm is also listed in General Contractors category. Current projects include 1.3 million square feet of new construction and 514,000 square feet of renovation at Kings County Hospital in Brooklyn, N.Y., a 280,000-sq.-ft. office building at Bay Colony Corporate Center, Waltham, Mass., and the $30 million Brookhaven at Lexington (Mass.) life care community. *Alfred McNeill, Chm., Pres.; Harold Parmelee, Pres., Turner Construction Co.*

10 (—) **$400.00**

BE&K Inc.
2000 Int'l Park Drive
Birmingham, AL 35243
(205) 969-3600

Firm is also listed in the Engineers, Design/Builders and General Contractors category. Current projects include a new $200 million production facility for Richmond (Va.) Newspapers and a $170 million paper mill expansion in Rome, Ga. Firm purchased Trenton, N.J.-based Allstates Design and Development Co. last year. It specializes in facilities for the chemical, petrochemical, nuclear and food industries. *Ted Kennedy, Chmn., CEO*

Breakdown of the Construction Managers' Billings



GENERAL CONTRACTORS

C.I.I. VOLUME REBOUNDS STRONGLY

After a decline of 3 percent a year earlier, total work performed by the top 50 firms increases by 14 percent

1 (1) **$3,121.18**

The Turner Corp.
633 Third Ave.
New York, NY 10017
(212) 878-0400

Company completed 220 buildings in 1989, representing a total of 32.4 million square feet. It had 550 active projects, and the average job size was $12 million. Projects completed include the 58-story Two Union Square in Seattle, which used 19,000 psi concrete, and the 31-story 75 State Street in Boston. *Alfred McNeill, Chmn., Pres, CEO; Harold Parmelee, Pres., Turner Construction Co.*

2 (5) **$1,096.89**

The Clark Construction Group Inc.
7500 Old Georgetown Road
Bethesda, MD 20814
(301) 657-7100

Current projects include the $110 million Ronald Reagan State Office Building in Los Angeles, the $100 million Reston (Va.) Town Center, a $92 million prison in Suffolk County, Md., a $53 million office building for the American Association of Retired Persons in Washington, D.C., and a $99 million VA hospital and a $78 million Johns Hopkins ambulatory care building, both in Baltimore. *A. James Clark, Chmn., CEO*

3 (6) **$1,048.30**

Fluor Daniel Inc.
100 Fluor Daniel Drive
Greenville, SC 29607
(803) 298-2500

Firm also is listed in Engineers, Design/Builders and Construction Managers categories. Current general contractor projects include two Hyatt hotels in Fairfax County, Va., expansion of the south terminal at Greenville-Spartanburg (S.C.) Jetport and expansion of a Nissan Motor Manufacturing Corp. engine test facility in Smyrna, Tenn. Parent company is Fluor Corp. *Vincent Kontny, Pres., CEO*

4 (—) **$1,043.46**

Fletcher Construction (U.S.A.) Ltd.
707 Richards St.
Honolulu, HI 96813
(808) 521-7861

The U.S. unit is a subsidiary of New Zealand-based Fletcher Construction Co. Ltd. Fletcher Construction (U.S.A.) subsidiaries include Pacific Construction Co., Honolulu; Howard S. Wright Construction Co., Seattle; and Dinwiddie Construction Co., San Francisco. Current projects include the California Plaza office building in San Francisco. *Murray Bawden, Pres., Pacific Construction Co.*

5 (2) **$910.00**

Jones Group Inc.
6060 St. Albans St.
Charlotte, NC 28287
(704) 553-3100

Current projects include 311 S. Wacker Drive, Chicago, the world's tallest concrete building; the $105 million One Peachtree Center in Atlanta; the $24 million Two Hannover Square office building in Raleigh, N.C.; the $27 million Gwinnett County Detention Center in Lawrenceville, Ga.; and a 10-year project to enlarge three terminals at Newark (N.J.) International Airport. *Johnie H. Jones, Pres., Chmn.*

6 (3) **$897.00**

Centex Corp.
3333 Lee Parkway
Dallas, TX 75219
(214) 559-6500

Current projects include a $134 million expansion at Orlando Airport; the $73 million Great American Plaza in San Diego; a $69 million Veterans Administration medical center in Dayton, Ohio; the $68 million Tampa (Fla.) Convention Center; the $58 million St. John s Hospital in Oxnard, Calif.; the $52 million Federal Correctional Institute in Minersville, Pa.; and Children's Hospital in Orange County, Calif. *Laurence Hirsch, Pres., CEO*

7 (4) **$879.90**

McDevitt & Street Co.
One Parkway Plaza
Charlotte, NC 28232
(704) 357-1919

Projects scheduled for completion this year include the 223-suite Embassy Suites Hotel in Pittsburgh; the 125-suite AmeriSuites hotel in Nashville; the 42-story Barnett Plaza office building in Jacksonville, Fla.; and the 22-acre MCA/Universal Theme Park in Orlando. The 30-story First Union Capitol Center in Raleigh, N.C., is scheduled for completion in 1991 and the 60-story NCNB Corporate Center in Charlotte in 1992. *Luther Cochrane, Chmn., CEO*

8 (7) **$801.00**

BE&K Inc.
2000 International Park Drive
Birmingham, AL 35243
(205) 969-3600

Firm also is listed in the Engineers and Design/Builders categories. Current projects include $550 million paper mill expansions for Boise Cascade Corp. in International Falls, Minn., and for Weyerhaeuser Paper Co. in Columbus, Miss.; a $100 million coated board mill expansion for Mead Corp. in Mahrt, Ala.; and a $350 million mill expansion for Southeast Paper Co. in Dublin, Ga. *Ted Kennedy, Chmn., CEO*

One Waterfront Towers, a Honolulu condominium, was constructed by a Fletcher Construction (U.S.A.) subsidiary. Photo: Augie Salbosa Photography

GENERAL CONTRACTORS

M.A. Mortenson Co. was general contractor *for the Scanticon-Denver Conference Center, Hotel and Resort.* Photo: Tim Hursley

9
(9)
$680.00

HCB Contractors
1401 Elm St., 46th floor
Dallas, TX 75202
(214) 747-8541

Projects to be completed this year include the 22-story Albuquerque Plaza office building in Albuquerque; the 380,000-sq.-ft. Walt Disney corporate headquarters in Burbank, Calif.; a 10-story office building in Falls Church, Va.; and two buildings for Fujitsu America Inc. in Richardson, Texas. The GTE Telephone Operations Headquarters in Irving, Texas, is under construction. *Lawrence Wilson, Pres., COO*

10
(12)
$558.36

McCarthy
1341 N. Rock Hill Road
St. Louis, MO 63124
(314) 968-3300

Current projects include a $64 million Motorola semiconductor plant in Chandler, Ariz.; the $170 million renovation of 104 buildings in the St. Louis school system; the $160 million Dartmouth-Hitchcock Medical Center in Lebanon, N.H.; the $58 million Watt City Center office building in Los Angeles; and the $53 million Emerald River Hotel and Casino in Laughlin, Nev. *Michael McCarthy, Chmn.*

11
(—)
$531.37

M.A. Mortenson Co.
700 Meadow Lane North
Minneapolis, MN 55440
(612) 522-2100

Scheduled for completion next year are LaSalle Plaza, a 900,000-sq.-ft. Minneapolis office building, and a $43 million State Farm Insurance regional office in Bloomington, Ill. Alii Place, a 24-story office building in Honolulu, is scheduled for completion in 1992. Water and waste treatment plants represented 11 percent of firm's work. *M.A. Mortenson Jr., Pres., CEO*

12
(—)
$483.00

Koll Construction Co.
4343 Von Karman Ave.
Newport Beach, CA 92660
(714) 833-3030

Projects to be completed this year include a $50 million construction/reconstruction of the Hills Brothers building in San Francisco, the $25 million Richard M. Nixon Presidential Archives, Yorba Linda, Calif., and the $13 million Phoenix (Ariz.) Hilton Hotel. Other current projects include a 52,000-sq.-ft. Sports and Wellness Center at the Nike World Campus in Beaverton, Oregon. *John Wills, Pres.*

13
(10)
$435.10

The Pepper Cos.
643 N. Orleans St.
Chicago, IL 60610
(312) 266-4703

Firm completed a 1 million-sq.-ft. addition and renovation of the Federal Reserve Bank of Chicago, the 280,000-sq.-ft. Rockwell Graphic Systems headquarters in Westmont, Ill., and a 420,000-sq.-ft. office building in Northbrook, Ill., for Allstate Insurance Co. Single-family residential projects accounted for 3 percent of total activity. *Richard Pepper, Chmn.; Geoffrey Knudson, Pres.*

14
(11)
$423.36

The Whiting-Turner Contracting Co.
300 E. Joppa Road
Baltimore, MD 21204
(301) 337-5766

Projects to be completed this year include a $9.3 million addition and ambulatory surgical center at Franklin Square Hospital Center and a $9 million Seagram & Sons bottling plant, both in Baltimore, and a $4.6 million manufacturing facility for Alfa-Laval Thermal Co. in Richmond, Va. To be completed in 1991 are a $45 million newspaper printing facility for the Baltimore *Sun*. *Willard Hackerman, Pres.*

15
(8)
$404.18

Perini Corp.
73 Mt. Wayte Ave.
Framingham, MA 01701
(508) 875-6171

Projects to be completed this year include two buildings at Westwood (Mass.) Executive Center; a $23 million Hyatt at Fisherman's Wharf in San Francisco; the $30 million Worcester County House of Corrections in West Boylston, Mass.; the $95 million Flamingo Hilton in Laughlin, Nev.; and the $20 million expansion of the Holiday Inn Hotel & Casino in Las Vegas. Highway and civil projects were 30 percent of total activity. *David Perini, Chmn., Pres.*

16
(17)
$355.00

Huber, Hunt & Nichols
P.O. Box 128
Indianapolis, IN 46206
(317) 241-6301

Projects to be completed this year include a $16 million residence hall at Butler University in Indianapolis; two office buildings in Miramir, Fla.; the 207,000-sq.-ft. Merrill Lynch Western Operations Center in Denver; the $68 million Suncoast Dome in St. Petersburg, Fla.; a $15 million exterior renovation of a state office building in Indianapolis; and the $13 million Plano (Texas) Civic Center. *Bruce Bennett, Pres.*

17
(16)
$352.00

Blount Construction Division
P.O. Box 949
Montgomery, AL 36101
(205) 244-4000

Major projects completed in 1989 include the $100 million AT&T headquarters in Chicago and the $92 million San Jose Convention Center. To be completed this year are the $50 million Del Norte Prison in Crescent City, Calif., the $18 million Dayton (Ohio) Arcade Center and the $61 million Hillsborough County Detention Center in Tampa, Fla. *James Terry Honan, Pres.*

18
(18)
$351.78

Swinerton & Walberg Co.
580 California St.
San Francisco, CA 94104
(415) 421-2980

Projects to be completed this year include a $7 million American Airlines terminal expansion at San Jose (Calif.) Airport; the 25-story 1111 Broadway office building in Oakland, Calif.; the $44 million Federal Home Loan Bank Board Building in San Francisco; the 52-story Figueroa at Wilshire Building in Los Angeles; renovation of the Huntington Ritz-Carlton Hotel in Pasadena; and a $13 million performing arts center at Irvine (Calif.) Center. *David Grubb, Pres.*

19
(14)
$349.13

Walbridge Aldinger
613 Abbott St.
Detroit, MI 48226
(313) 963-8000

Company has begun construction on the 44-story One Detroit Center in Detroit. Other current projects include five Detroit-area hotels — a full-service Marriott in Troy, Marriott Compact Hotels in Southfield and Livonia, an Embassy Suites in Livonia and the Hotel Baronette in Novi. Completed an $80 million retrofit of a Ford assembly plant in Romeo, Mich. *John Rakolta Sr., Chmn.; John Rakolta Jr., Pres.*

20
(—)
$305.00

Morse/Diesel Inc.
1515 Broadway
New York, NY 10036
(212) 730-4000

Firm was listed last year in the Construction Managers category. Current projects include the $113 million 101 Hudson Street building in Jersey City, and two Chicago projects, a $100 million, 50-story tower for Chicago Title & Trust Co. and the 35-story USG Building, all to be completed in 1992. Company also is general contractor for a 27-story federal office building in Chicago. *Donald Piser, Chmn., CEO*

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21 (23) $299.93

PCL Enterprises Inc.
2000 S. Colorado Blvd.
Denver, CO 80222
(303) 753-6554

Company completed, in joint venture with Kraus-Anderson, the $35 million Gaviidae Common retail center in Minneapolis. To be completed this year are the $73 million Manulife office building in Los Angeles and four concourses at the Phoenix airport. A $41 million Ritz-Carlton Hotel at Aspen, Colo., will be completed in 1991. Company also is performing CM for the 2.6 million-sq.-ft. Mall of America in Bloomington, Minn. *C.R. Tarr, Vice Chmn.*

The value of C.I.I. work reported by the 50 General Contractors for 1989 was $21 billion, up from $18.5 billion the previous year.

22 (34) $261.77

Kitchell Corp.
1707 E. Highland
Phoenix, AZ 85016
(602) 275-7541

Completed a 210,000-sq.-ft. expansion of Tucson Convention Center, a 225,000-sq.-ft. expansion of Scottsdale (Ariz.) Memorial Hospital-North, a five-story patient tower and three-story building at Irvine (Calif.) Medical Center and a 540,000-sq.-ft. facility at the UCLA Ambulatory Care Complex in Los Angeles. Firm is renovating and expanding the Lloyd Center retail/office development in Portland, Ore. *William Schubert, Pres., CEO*

25 (28) $257.00

The Carlson Group Inc.
321 Commonwealth Road
Cochituate, MA 01778
(617) 969-1200

Projects completed this year include a warehouse/distribution center in Greensboro, N.C., for American Express; a 151,000-sq.-ft. division headquarters in Raynham, Mass., for Johnson & Johnson; and a 75,000-sq.-ft. diskette manufacturing plant in Bedford, Mass., for BASF. Completions in 1991 will include a 330,000-sq.-ft. community services center in Raleigh, N.C., and a 200,000-sq.-ft. school in Revere, Mass. *M. Joseph Celi, Pres., CEO*

28 (—) $233.30

Kajima International Inc.
2100 N. Central Road
Fort Lee, NJ 07024
(201) 944-9800

Firm also is listed in the Design/Builders category. To be completed this year are the $15 million Seimans Jewish Center in Boca Raton, Fla., and a $10 million office complex in Atlanta for NCR Corp.'s retail systems division. Scheduled for completion next year are the $17 million ANA Hotel in Miami Beach, Fla., and the $42 million Commerce Place office building in Baltimore. *Shoichi Kajima, Pres., CEO; Ayao Katayama, Exec. VP, COO*

23 (35) $260.00

Beers Inc.
70 Ellis St., N.E.
Atlanta, GA 30303
(404) 659-1970

Projects completed include the $25 million CSC Headquarters in Alpharetta, Ga., for Digital Equipment Corp.; a $10 million medical office building at Piedmont Hospital, the $15 million Crown Pointe office tower and the $20 million Delta Air Lines Ground Training and Residence Center, all in Atlanta. *L.L. Gellerstedt III, Pres., CEO; L.L. Gellerstedt Jr., Chmn.*

26 (22) $250.33

Fru-Con Construction Corp.
15933 Clayton Road
Ballwin, MO 63022
(314) 391-6700

Firm also is listed in the Design/Builders category. Projects to be completed this year include an $18 million corporate office facility for Sherwood Medical in St. Louis; a manufacturing plant for M&W Packaging U.S. in Cape Girardeau, Mo.; a $29 million beverage manufacturing facility for Procter & Gamble in Sherman, Texas; and a $19 million manufacturing facility for Mallinckrodt Inc. *Manfred Lupp, Pres., CEO*

29 (36) $231.59

The Weitz Co. Inc.
800 Second Ave.
Des Moines, IA 50309
(515) 245-7600

Completed the $5 million Inn at Keystone (Colo.). To be completed this year are a $13 million Embassy Suites hotel in Des Moines; a $35 million Ritz-Carlton hotel in Manalapan, Fla.; the $18 million Harbour's Edge retirement home in Delray Beach, Fla., a $23 million retail project at Oakbrook Center, Oakbrook, Ill.; and the $16 million Beacon Hill retirement home in Lombard, Ill. *Glenn De Stigter, Pres.*

24 (19) $258.00

Rudolph and Sletten Inc.
P.O. Box 4637
Foster City, CA 94404
(415) 572-1919

Projects completed this year include an $85 million submicron facility in Sunnyvale, Calif., for Advanced Micro Devices; a $7 million office building for Apple Computer in Cupertino, Calif.; a $17 million central library in Sacramento; a $7 million data center for Clorox Co. in Pleasanton, Calif.; and an $8 million printing facility for the Concord *Times* in Concord, Calif. *D.H. Rudolph Jr., Pres.; K.G. Sletten, Exec. VP*

27 (15) $237.84

Mellon Stuart Co.
One North Shore Center
Pittsburgh, PA 15212
(412) 323-4600

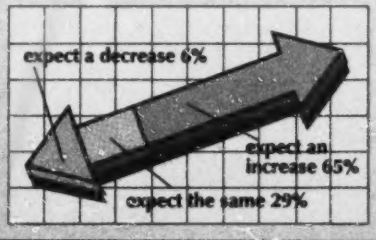
Projects to be completed this year include the Universal Studios Theme Park in Orlando, the St. Charles Towne Center retail mall in Waldorf, Md., and a five-story building in Pittsburgh for Parklane Associates. To be completed next year are a $32 million jail dormitory facility in Chicago for the Cook County Department of Corrections and the $18 million Carnegie Science Center in Pittsburgh. *Robert Luffy, Pres.*

30 (47) $228.65

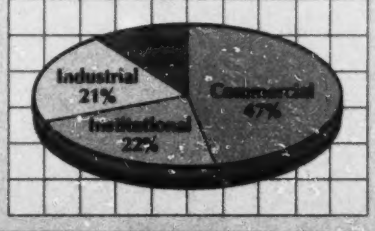
Hardin Construction Group Inc.
1380 W. Paces Ferry Road, N.W.
Atlanta, GA 30327
(404) 264-0404

Projects to be completed this year include the 27-story 1100 Peachtree office building in Atlanta; the eight-story Cornerstone office building in Plantation, Fla.; the 28-story Barnett Tower in St. Petersburg, Fla.; the 38-story Promenade Two office building in Atlanta; and a Robert Bosch distribution facility in Atlanta. *Earl Shell Jr., Chmn., CEO*

What is the General Contractors' Outlook for Revenues in 1990?



Breakdown of the General Contractors' Billings



31 (—) $227.00

Baugh Construction Co.
Box C-14135
Seattle, WA 98114
(206) 726-8000

Projects completed last year include a $3 million warehouse in Beaverton, Ore.; a $2.5 million expansion of the MRI unit at the Kaiser Hospitals in Clackamas, Ore.; and a $2.5 million Bon Marche store in Burlington, Wash. Completions this year will include the $12 million 600 Broadway Medical Building in Seattle and Target stores in Kelso, Wash., North Spokane, Wash., Tukwila, Wash.; and Boise, Idaho. *Robert Baugh, Chmn.*

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GENERAL CONTRACTORS

32 (13) **$226.80**
J.S. Alberici Construction Co.
2150 Kienlen Ave.
St. Louis, MO 63121
(314) 261-2611

Completions this year will include two projects in St. Louis for the U.S. General Services Administration, a $52 million renovation of the Mart Building and the $34 million Federal Records Center; and a $40 million can plant in Newburgh, N.Y., for Anheuser Busch. St. Louis projects to be completed in 1991 include a $50 million addition to the Galleria retail center. *Gabriel Alberici, Chmn.*

33 (27) **$226.42**
Morrison Knudsen Corp.
Morrison Knudsen Plaza
Boise, ID 83707
(208) 386-8000

Firm also is listed in the Design/Builders and Construction Managers categories. Current projects include an expansion, consisting of 80 major buildings and 700 housing units, at the Fort Drum Army base in Watertown, N.Y. New $13 million headquarters for food retailer Albertsons in Boise will be completed in early 1991. *William Agee, Chmn., CEO*

34 (30) **$210.00**
Kraus-Anderson Construction Co.
525 S. 8th St.
Minneapolis, MN 55404
(612) 332-7281

Current projects include a 1.8 million-sq.-ft. R&D office building in Austin, Texas, for 3M Co.; the $35 million Gaviidae Common retail development (in joint venture with PCL Enterprises) and the $81 million Dain Bosworth/Neiman Marcus Plaza retail/office development, both in Minneapolis; and the $6 million Centennial Lakes Medical Office Building in Edina, Minn. *Lloyd Engelsma, CEO*

35 (26) **$210.00**
Torcon Inc.
P.O. Box 609
Westfield, NJ 07091
(201) 232-8900

Projects in construction include a 900,000-sq.-ft. R&D facility in Kenilworth, N.J., for Schering-Plough Corp.; a 254,000-sq.-ft. headquarters expansion in Branchville, N.J., for Selective Insurance Co.; a headquarters in New Providence, N.J., for Martindale-Hubbel Corp.; and a 350,000-sq.-ft. corporate office building in Roseland, N.J., for Prudential Insurance Co. *Benedict Torcivia, Chmn., CEO*

36 (39) **$195.00**
Oltmans Construction Co.
10005 Mission Mill Road
Whittier, CA 90608
(213) 948-4242

Projects completed in 1989 include a $9 million warehouse rehabilitation in Los Angeles for Quotrom Systems, five buildings at Menlo Business Park in Menlo Park, a $2.6 million warehouse in Los Angeles for The Boys Market Inc. and a $7 million distribution center in City of Industry, Calif., for Ingram Paper Co. Completions this year will include four buildings for Leed Properties in Chino, Calif. *R.M. Holmes, CEO*

37 (24) **$190.01**
Sundt Corp.
4101 Irvington Road
Tucson, AZ 85726
(602) 748-7555

Projects completed last year included the $71 million Salt River Project Information Systems Building in Tempe, Ariz., the 15-building Carmel Highland Resort hotel complex in San Diego and the $21 million Biltmore Financial Center in Phoenix. Nonbuildings work was 26 percent of total activity. Firm acquired Ninteman Construction Co. of San Diego. *H. Wilson Sundt, Chmn.; Robert Sundt, Pres.*

38 (33) **$179.35**
Nielsen Construction Co.
3127 Jefferson St.
San Diego, CA 92110
(619) 291-6330

Current projects include the 15-story La Jolla (Calif.) Executive Center, the 17-story Hahn Tower Plaza in La Jolla, three buildings totaling 200,000 square feet at Mission City Corporate Center in San Diego and the $30 million Village-Hillcrest development in San Diego, which includes a skilled nursing facility, medical office building, residential units and retail. *Stephen Marble, Pres., CEO*

39 (32) **$176.00**
Austin Commercial Inc.
P.O. Box 2879
Dallas, TX 75221
(214) 630-7011

Firm completed an 860,000-sq.-ft. office facility in Plano, Texas, for Electronic Data Systems, six R&D buildings in Austin, Texas, for Vista Chemical and four buildings totaling 400,000 square feet in Richardson, Texas, for MCI Engineering. To be completed this year are an $83 million expansion of the American Airlines headquarters in Fort Worth and the 860,000-sq.-ft. Oryx Energy Center headquarters in Dallas. *Ron Gafford, Pres.*

40 (37) **$175.56**
Pavarini Construction Co.
585 W. Putnam Ave.
Greenwich, CT 06830
(203) 622-6700

Projects to be completed this year include an $18 million students' residence at Manhattan College in New York City and the $24 million General Accident office building in Melville, N.Y. To be completed in 1992 are a $75 million headquarters in Islandia, N.Y., for Computer Associates, the $20 million Sun Bank Center in Fort Lauderdale, Fla., and the $22 million River Towers condominium in Yonkers, N.Y. *George Pavarini, Chmn.*

Nielsen Construction Co. constructed the first phase of the Rio Vista Towers office development in San Diego. Photo: Ryan Roulette Photography

41 (29) **$172.80**
Hensel Phelps Construction Co.
P.O. Box O
Greeley, CO 80632
(303) 352-6565

Projects to be completed this year include a $14 million police communications center for the city of San Jose, Calif., a $26 million detention center in Kern County for the California Department of Corrections, a $5 million renovation at Picadilly Square at Paseo Nuevo in Santa Barbara, Calif., and a $15 million Embassy Suites Hotel in San Rafael, Calif. *Jerry Morgensen, Pres.; Harold Evans, Exec. VP*

42 (43) **$168.85**
J.E. Dunn Const. Co
929 Holmes
Kansas City, MO 64106
(816) 474-8600

Recent project completions include a $36 million industrial building in Lees Summit, Mo., for AT&T Microelectronics; the 20-story Alameda Towers residential condominium in Kansas City; an $8.1 million industrial building in Lenexa, Kan., for Deluxe Check Printers; a $5 million Marriott Hotel at Kansas City International Airport; and an $8 million addition to the Employers Reinsurance Corp. in Overland Park, Kan. *Terrence Dunn, CEO*

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GENERAL CONTRACTORS

Dimeo Companies was general contractor for a new $55 million in-patient facility at Boston University Medical Center. Photo: Paul Gobeil

47 (—) **$143.30**
Charles Pankow Inc.
2476 N. Lake Ave.
Altadena, CA 91001
(213) 684-2320

Firm also is listed in the Design/Builders category. Recently completed projects include the 758,00-sq.-ft. Marathon Plaza office building in San Francisco. Honolulu projects included renovation of the Ala Moana Shopping Center, the 40-story Honolulu Park Place condominium and a 270,000-sq.-ft. warehouse for A.I.P.A. *Charles Pankow, Pres., CEO*

48 (—) **$140.00**
Harbour Contractors
701 Harger Road
Oakbrook, IL 60521
(708) 572-2200

Current projects include the 76-story 311 Wacker Drive Building in Chicago (in joint venture with Jones Group Inc.); a 1 million-sq.-ft. warehouse in Manteno, Ill., for Sears, Roebuck & Co.; a 300,000-sq.-ft. data processing center in Elgin, Ill., for First Chicago Corp.; and a $30 million corporate campus in Oakbrook, Ill., for Waste Management Inc. *Patrick Harbour, Pres.*

43 (25) **$161.18**
Walsh Construction Co.
101 Oakview Drive
Trumbull, CT 06611
(203) 373-7900

Firm completed the 38-story Cityplace II office tower in Hartford, Conn., and in San Diego the $77 million Symphony Towers development, consisting of a 34-story office tower and a 262-suite Marriott Hotel. Projects under construction include two buildings in East Hanover, N.J., for Sandoz Pharmaceuticals Corp., an $87 million courthouse in East Islip, N.Y., and the renovation of four buildings at City College of New York. *William Carlson, Pres.*

45 (42) **$160.00**
Dimeo Construction Co.
75 Chapman St.
Providence, RI 02905
(401) 781-9800

Volume reported above includes $16 million of design/build work. Projects completed include the $55 million atrium pavilion building at Boston University Medical Center, a $12 million biomedical laboratory facility at Brown University in Providence, R.I., and a 180,000-sq.-ft. jail in Dartmouth, Mass. An $18 million Digital Equipment Corp. office/R&D building in Maynard, Mass., will be completed this fall. *Harry Van Matre, CEO*

49 (40) **$136.00**
Continental Heller Const.
2700 Gateway Oaks Drive
Sacramento, CA 95833
(916) 920-9600

Projects completed last year include a $26 million addition to Loma Linda (Calif.) Medical Center; a $17 million Veterans Administration hospital in Long Beach, Calif.; a $36 million Applied Sciences Building at the University of California-Los Angeles; a $33 million terminal at San Jose (Calif.) Airport; a $25 million federal office building in Long Beach; and a $10 million office building for Siemens in Concord, Calif. *Andrew Carlson, Pres.*

44 (20) **$161.07**
Barton-Malow Co.
P.O. Box 5200
Detroit, MI 48235
(313) 351-4500

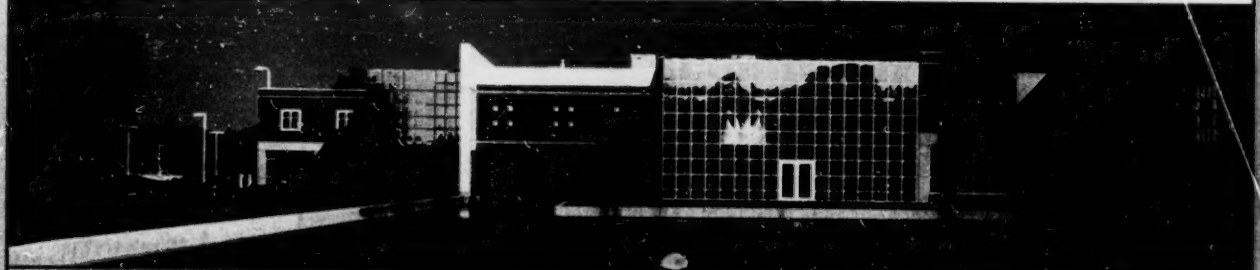
Firm also is listed in the Construction Managers category. Current projects include the $15 million Sarasota (Fla.) City Center; a 480-bed medium-security prison in Telfair, Ga.; a $22 million Veterans Administration hospital addition in Clarksburg, W. Va.; a $5 million office expansion at Domino's Farms in Ann Arbor, Mich.; and a $20 million parking deck for Chrysler Corp. in Richmond, Va. *Ben Maibech, III, Pres.*

46 (38) **$155.66**
Dick Corp.
P.O. Box 10896
Pittsburgh, PA 15236
(412) 384-1000

Current projects include a $29 million terminal at Pittsburgh International Airport, a $50 million rehabilitation of the Rockland (N.Y.) Psychiatric Center, a $35 million prison facility in Napanock, N.Y., and a $16 million prison in Lorton, Va. Firm also is providing construction management for the $503 million midfield terminal expansion at the Pittsburgh airport. *Dorsey Dick, CEO*

50 (—) **$135.00**
Marshall Contractors Inc.
75 Newman Ave.
Rumford, RI 02916
(401) 438-3500

Firm also is listed in the Design/Builders category. Current projects include the $60 million Providence (R.I.) Convention Center; the $50 million McCormack & Dodge headquarters office complex in Framingham, Mass.; a $40 million addition/renovation at Natick (Mass.) Mall; and a $38 million renovation at an IBM microchip facility in Essex Junction, Vt. *John Marshall III, Pres.*



Marshall Contractors constructed the first phase of Talbots distribution center in Lakeville, Mass. Photo: Richard Mandelkorn

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SPECIALTY CONTRACTORS

LEADING SPECIALTY CONTRACTORS POST LARGE GAINS

Billings for top firms grow significantly, driving up the group as a whole

1 (—) **$648.30**

JWP Inc.
2975 Westchester Ave.
Purchase, NY 10577
(914) 935-4000

Firm is new to the listing this year. Above figure excludes the 35 percent of activity that was comprised of utility plants, civil projects and waste treatment plants. JWP's subsidiaries include Dynaelectric, Forest Electric, University Industries, Gibson Electric and JWP Information Systems. *Andrew Dwyer, Chmn., Pres.*

2 (1) **$390.50**

Fischbach Corp.
485 Lexington Ave.
New York, NY 10017
(212) 986-4100

Firm has five subsidiaries, including Fischbach and Moore Inc. (Dalias) and Natkin Group Inc. (Denver), electrical and mechanical contractors, respectively. Other offices are located in New York City, Boston, Los Angeles and Woodbridge, Va. Activity includes 14 percent commercial, 20 percent institutional and 21 percent industrial. *Robert J. Niehaus, Acting Pres.*

3 (—) **$267.00**

Harmon Contract
660 Kasota Ave. S.E.
Minneapolis, MN 55414
(612) 623-7300

This curtain wall and glazing contractor is new to the listing this year. Firm is a subsidiary of Apogee Enterprises Inc. and has 20 offices around the country Activity was 85 percent commercial and 15 percent institutional. Recent projects include Two Prudential Plaza in Chicago and the First Bank Center in Minneapolis. Reconstruction accounted for 10 percent of activity, as did government work. *Gary W. Haider, Pres. & CEO*

4 (—) **$146.40**

Henkels & McCoy Inc.
Jolly Road
Blue Bell, PA 19422
(215) 283-7900

This communications engineering, construction and maintenance firm is new to the listing this year. Firm has 11 offices, including those in Denver, Washington, D.C., and Richmond, Va. Commercial and institutional work comprised 61 percent of activity and 5 percent of work involved federal, state and local government projects. *Paul M. Henkels, CEO, Chmn.; Kenneth Rose, COO, Pres.*

5 (—) **$128.80**

Baker Concrete Construction Inc.
900 N. Garver Road
Cincinnati, Ohio 45050
(513) 539-4000

Firm is new to the listing this year and its specialty is concrete construction. Other offices are located in Houston and Indianapolis. Activity includes 48 percent industrial and 44 percent commercial and institutional. Projects include the R.J. Reynolds Tobacco Facility in Tobaccoville, N.C., and the Republic Bank Center in Houston. *Daniel L. Baker, Pres.*

6 (2) **$124.00**

Limbach Constructors Inc.
4 North Shore Center
Pittsburgh, PA 15212
(412) 359-2100

Recent projects of this privately held mechanical contractor include the Waterfront Hilton in Huntington Beach, Calif., and the Honda Assembly Plant in East Liberty, Ohio. Activity was 45 percent commercial and 55 percent industrial. Government work accounted for 20 percent of activity and reconstruction accounted for 10 percent. *Claudio Elia, Pres.; Stephen B. Wurzel, Exec. VP; Charles L. Boyd, Exec. VP*

7 (6) **$115.28**

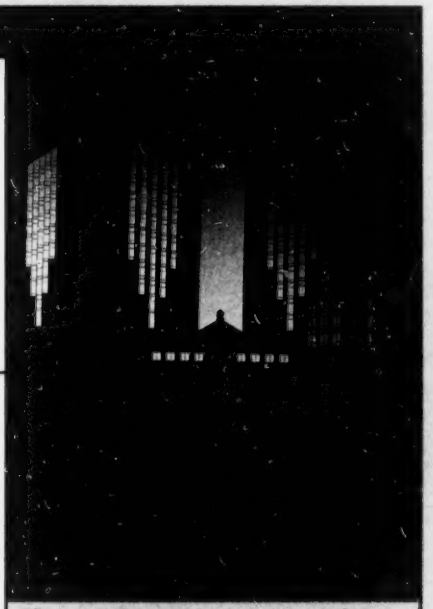
Cleveland Consolidated Inc.
1281 Fulton Industrial Blvd. N.W.
Atlanta, GA 30336
(404) 696-4550

Billings estimated by *BD&C*. Specialties include electrical, mechanical, instrumentation, power and process piping equipment installation. Work also includes reconstruction and federal, state and local government projects. *J.R. Cleveland Jr., Pres.*

8 (9) **$108.59**

Air Conditioning Co.
6265 San Fernando Road
Glendale, CA 91201
(818) 244-6571

Specialty is the design and installation of HVAC systems for high-rise office buildings, shopping centers and hotels. Activity was 96 percent commercial and 4 percent institutional. Two other California offices are in San Carlos and San Diego. Firm is currently working on the Hollywood Galaxy Shopping Center in Los Angeles and the Loma Linda University Medical Center in Loma Linda, Calif. *Theodore M. Seidman, Pres.*



Harmon Contract recently completed curtain wall work on the Carlson Center in Minnetonka, Minn.

9 (7) **$100.00**

Anson Industries
1959 Anson Drive
Melrose Park, IL 60160
(708) 681-1300

Other major offices include Los Angeles, San Francisco, Seattle, Atlanta and Orlando. Activity was 65 percent commercial, 20 percent industrial and 15 percent institutional. Reconstruction accounted for 20 percent of activity; federal, state and local government projects accounted for 10 percent. Subsidiaries of this privately held firm include Anning Johnson Co. and Vertecs Corp. *Charles M. Fritz, Chmn., CEO*

10 (8) **$97.00**

The Western Group
1637 N. Warson Road
St. Louis, MO 63132
(314) 427-6733

Firm's specialties are exterior masonry restoration, concrete restoration and waterproofing. Three subsidiaries are Western Waterproofing Co. Inc., Western Waterproofing Company of America and Brisk Waterproofing Co. Inc. Activity was 50 percent commercial, 35 percent institutional and 13 percent industrial. Firm recently completed exterior restoration at the Manhattan Municipal Building in New York City. *George Bishop Jr., Chmn.*

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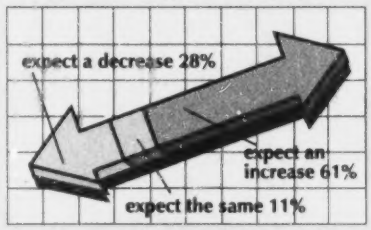
SPECIALTY CONTRACTORS

11 (5) **$88.33**

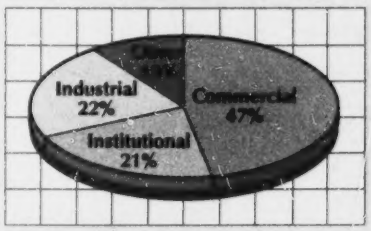
The Poole and Kent Co.
4530 Hollins Ferry Road
Baltimore, MD 21227
(301) 247-2200

Parent firm is Monumental Investment Corp., which owns a number of mechanical contracting businesses. Above figure excludes 35 percent of work that involved waste treatment plants. Activity was 25 percent commercial, 20 percent institutional and 20 percent industrial. Other offices are located in Miami, West Palm Beach and Tampa, Fla. Firm expects revenues to increase by 15 percent in the coming year. *William Thomas, Pres.; Raymond Jung, Exec. VP*

What is the Specialty Contractors' Outlook for Revenues in 1990?



Breakdown of the Specialty Contractors' Billings



12 (14) **$80.00**

Fisk Electric Co.
111 T.C. Jester
Houston, TX 77007
(713) 868-6111

Firm's specialty is electrical work in high-rise office buildings, hospitals, computer facilities and industrial buildings. Activity was 60 percent commercial, 35 percent institutional and 5 percent industrial. Recent projects include the Flamingo Hilton in Laughlin, Nev., and the Las Vegas Convention Center. *Wallace Brasuell, Pres.*

15 (—) **$70.00**

Midwest Mechanical Contractors Inc.
2720 E. 88th Terrace
Kansas City, MO 64132
(816)361-2500

Privately held firm is new to the listing this year. Midwest Mechanical Contractors of New Jersey Inc., located in Fairfield, N.J., is a subsidiary. Activity was 55 percent commercial, 30 percent industrial and 15 percent institutional. Projects currently in progress include the Plaza Marriott Suites in Kansas City, Mo., and the Naperville Hospital in Naperville, Ill. *Thomas D. Sanders, Chmn.*

17 (18) **$56.28**

Grucon
101 W. Pleasant St.
P.O. Box 479
Milwaukee, WI 53201
(414) 223-6900

Billings estimated by *BD&C*. Subsidiaries include Grunau Co. Inc., Grunau Fire Protection Systems and Grunau Project Development. Firm has expertise in reconstruction projects and performs work primarily in the commercial, institutional and industrial markets. *Gary P. Grunau, Chmn., Pres.*

13 (11) **$77.26**

Williard Inc.
375 Highland Ave.
Jenkintown, PA 19046
(215) 885-5000

Parent firm is TWC Holdings Inc. Firm's specialty is mechanical, electrical and sheet metal construction for commercial and institutional buildings. Reconstruction projects accounted for 37 percent of activity, and federal, state and local government projects accounted for 20 percent. Recent projects include the Mellon Bank Center in Philadelphia and the Tower Center Hotel in Brunswick, N.J. *Joseph F. Doody, Pres.*

***The Western Group** was responsible for the total waterproofing and roofing of the new San Francisco Marriott.*

18 (—) **$50.54**

ISEC Inc.
P.O. Box 6849
Englewood, CO 80155
(303) 790-1444

Firm is new to the listing this year. ISEC installs finished materials and equipment in laboratory, health care, hospitality, educational and commercial facilities. Activity was 44 percent institutional, 37 percent industrial and 19 percent commercial. Federal, state and local government projects accounted for 40 percent of activity. Other offices are in Phoenix, Los Angeles, San Francisco, Seattle and Denver. *Lewis L. Anderson, Pres.*

14 (10) **$75.00**

Guarantee Electrical Co.
3405 Bent Ave.
St. Louis, MO 63116
(314) 773-1111

Activity was 50 percent commercial, 40 percent industrial and 10 percent institutional. Major subsidiaries include Guarantee Interiors, GISMO (Guarantee Industrial Systems Inc.) and GECO Engineering. Current projects include Washington University in St. Louis and the Southwestern Bell Data Center in St. Louis. *Charles W. Oertli, Chmn.; Fred Oertli Jr., Pres.*

16 (19) **$68.00**

Macco Constructors Inc.
14409 Paramount Blvd.
Paramount, CA 90723
(213) 630-5301

Activity was 65 percent commercial, 20 percent institutional and 15 percent industrial. Reconstruction accounted for 30 percent of activity and federal, state and local government projects accounted for 30 percent. Macco's specialties include aerospace industrial complexes, food distribution and processing plants, and retail malls. *William M. McCune, Pres., CEO*

19 (—) **$50.22**

John E. Green Co.
220 Victor Ave.
Highland Park, MI 48203
(313) 868-2400

Firm is new to the listing this year. Specialties include mechanical contracting and fire protection. Activity includes 45 percent industrial, 25 percent institutional and 23 percent commercial. Reconstruction work accounted for 75 percent of activity. Other offices are located in Ann Arbor, Lansing and Saginaw, Mich. Mechanical and fire protection work at University of Michigan Hospital in Ann Arbor is a current project. *Peter J. Green, Pres.*

Specialty Contractors report that work in the commercial sector dropped slightly, while opportunities in the institutional and industrial markets expanded.

20 (—) **$47.30**

U.S. Engineering Co.
3433 Roanoke Road
Kansas City, MO 64111
(816) 753-6969

This mechanical contractor is new to the listing this year. Other offices are located in Loveland, Colo., Warren, Ohio, Baltimore, Md. and King, N.C. Activity includes 47 percent industrial, 29 percent commercial and 10 percent institutional. Reconstruction accounted for 20 percent of billings and government work accounted for 5 percent. Staff includes 8 registered mechanical engineers. *Henry Nottberg III, Pres.*

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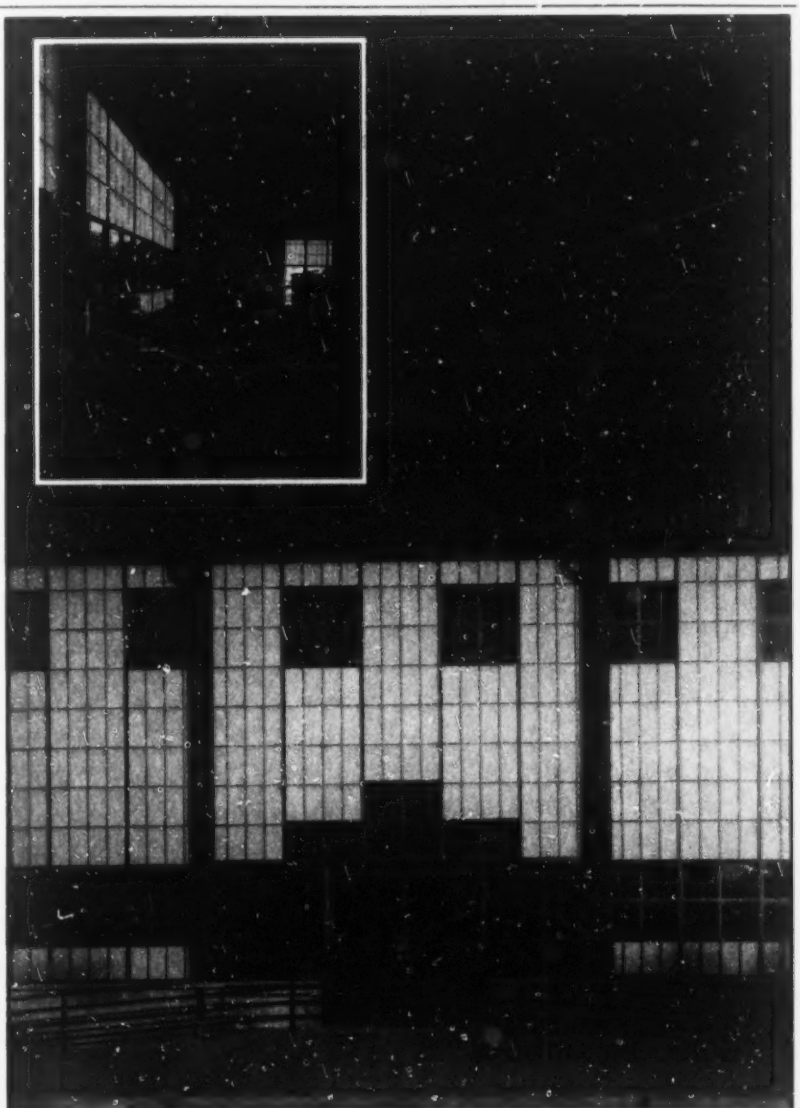

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